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FALL 2016

The Academy for Clear Aligner Therapy

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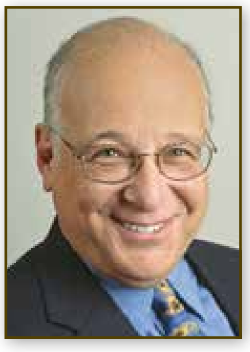


Editorial

Smiling Ear to Ear

I arrived at my dental practice one day last month, prepared for the usual: some fun patients, some grouchy patients, some easy, gratifying, and interesting procedures, and some stressful and demanding procedures.

I looked at my daily schedule, and immediately started smiling from ear to ear. I was practically singing, "Oh, what a beautiful morning! Oh, what a beautiful day!"

What I noticed was that most of my schedule was filled with Invisalign Clear Aligner Orthodontic patients. What a beautiful day this was going to be!

Dentists who provide patients with Clear Aligner Therapy (CAT) are happy dentists. Appointments are not only easy and fun, but also mutually gratifying to both patient and dentist.

And, even better, CAT patients become dental missionaries who refer numerous patients to the practice.

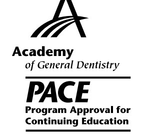
The goals of the Journal of the American Academy of Cosmetic Orthodontics—now known as the American Academy of Clear Aligners—are to support and encourage proficiency in attaining excellent esthetics with minimally invasive orthodontic techniques; to assist members who dedicate themselves to excellence in these techniques; and to provide recognition for members who offer this treatment modality to patients.

We strive to feature content specifically chosen to help members provide Clear Aligner Therapy with less stress, greater productivity, and greater profitability.

We hope you enjoy this issue!

Jeffrey Galler

Dr. Jeffrey Galler
Editor



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Letter from the President

A Rose by Any Other Name…Why our academy has changed its name

by David Galler, DMD

> "To reflect the changing industry and mind-set… our new name is the American Academy of Clear Aligners."

In 2009, the dental profession experienced a major change in viewpoint regarding cosmetic treatments. As of that year, two-thirds of general dentists in North America had completed Invisalign's Clear Aligner training.

At this critical tipping point, previous treatment plans and theories began to fall by the wayside. No longer did dentists think "prep first" as a cosmetic option; instead, they started to think "align first." In previous times, treatment options such as laminates, anterior porcelain crowns, and roundhouses were the treatment of choice for achieving the perfect smile; now, aligning teeth became the preferred option.

In that atmosphere, the American Academy of Cosmetic Orthodontics was born. Adherents of this new philosophy, trained in its methods, now had a forum to discuss and trade information about how esthetics could be achieved without ever lifting a handpiece.

Since then, the AACO has been providing our growing membership with the information and resources needed to keep pace with an expanding and evolving industry.

One of the founders of our Academy, Dr. Perry Jones, has often said, "Modern dentistry is all about moving teeth, not cutting teeth." He believes, as many of us do, that removing enamel rather than simply moving enamel is not the optimal approach to cosmetic problems.

This once groundbreaking concept no longer seems so radical. It has become yesterday's news, and with 32 of 68 dental schools in the country now certifying their students in Invisalign use, we can say that the transformation in mind-set is practically complete.

We have witnessed the great emergence of clear aligners in the orthodontic market over the last 5 years, and as orthodontists now surpass general dentists in Invisalign cases treated, it seems as if the orthodontic community has likewise embraced Clear Aligner Therapy over traditional treatments in many situations.

Therefore, we have changed the name of our beloved Academy to accurately reflect the changing industry and mind-set. Our new name is the American Academy of Clear Aligners.

The prevalence of Clear Aligner Therapy has led to an expansion of offerings and suppliers that shows no sign of slowing down. Just in the last 12 months, we have seen the introduction of the VPro5, Munchies, and BitePods. In addition, eon aligner and eCligner have made their presence felt at several major dental conventions. Even more aligner companies are expected to enter the marketplace in the near future.

Dentists need an unbiased resource to help evaluate these new companies and new products that are beginning to flood the marketplace. The American Academy of Clear Aligners aims to be that resource for dentists for the next decade.

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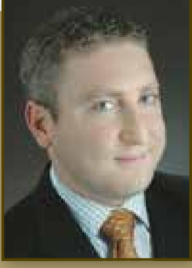
Case Reports

Can Invisalign Change the World of Periodontics?

by David Galler, DMD, and Rebecca Viego, DMD



Dr. David Galler is the President of the American Academy of Clear Aligners, and has proudly transformed hundreds of smiles with Invisalign® aligners. A featured speaker at numerous study clubs, webinars, national and regional events, Dr. Galler has been featured in educational and marketing materials designed to help practices learn more about Invisalign treatments and clinical techniques. The *New York State Dental Journal* (Jan. 2009) published his multidisciplinary case incorporating Invisalign, implant, prosthetic, and aesthetic treatment goals. He is the creator of the GST system being utilized by more than 3500 doctors across the country every day.

www. drdavidgaller.com

Dr. Rebecca Viego was born and raised in Miami, Florida, where she completed her BS in biology at Florida International University. Dr. Viego received her DMD at Nova Southeastern University in 2013. After dental school, to further her education and clinical skills, she completed a 1-year General Practice Residency at Montefiore Medical Center in the Bronx, New York. There, Dr. Viego was able to gain more well-rounded experience by completing complex cases involving medically compromised patients as well as healthy patients.

The clinician attempts Clear Aligner Treatment on a patient with severe periodontal disease, by intruding anterior maxillary teeth despite the lack of posterior anchorage.

As a general dentist, I am always looking for innovative ways to help my patients keep their current dentition.

Despite the predictable success of implants, I stubbornly insist on restoring teeth with deep decay even though they will probably need endodontic treatment, and I fabricate crowns for teeth with deep subgingival decay, by subjecting the patient to crown lengthening in order to establish a proper biological width for my crown margins.

So, given my conservative nature, when I met Lynnette and viewed the x-rays of her upper anterior teeth (**Figure 1a-f**), I was visibly shaken.

A desperate situation

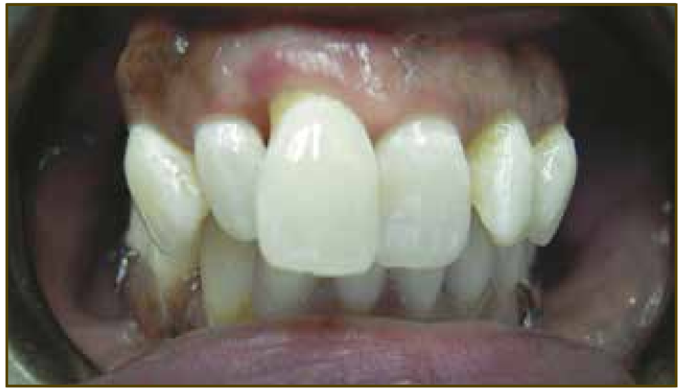
Her years of neglect were going to exact a major toll on the future of her most visible and important teeth: the central incisors. Clinical examination revealed probing depths of 7 mm with marked mobility present. (I could visualize how my oral surgeon was already preparing his extraction forceps and bone graft material!)

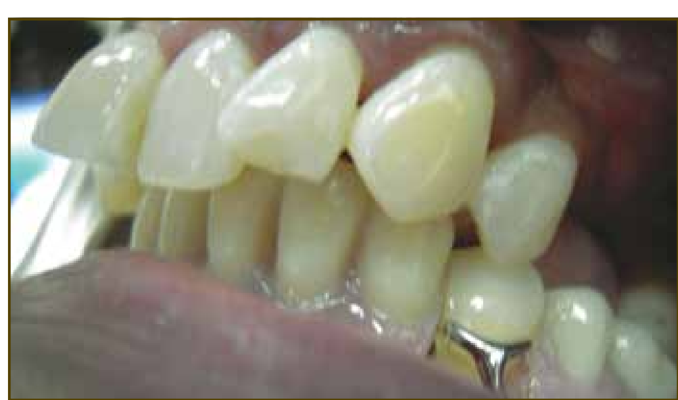
Upon learning of the sorry condition and probable fate of her front 4 teeth, Lynnette broke down in tears. I had expected her to be upset, but was shocked at the level of her despair. She had had many other teeth extracted in the past and was no stranger to edentulous areas, as evidenced by **Figure 2a-b**. In fact, she had already lost all her posterior right and left teeth over the years for various reasons.

A bold response

Her aggravation and depression were so overwhelming that I was desperate to make her feel better. With a sudden burst of hope I blurted out, "Maybe Invisalign can align your teeth and save them!"

"Really, Doctor?" she said. "Please, can we try it? I don't want to lose my front teeth. Please, just try."





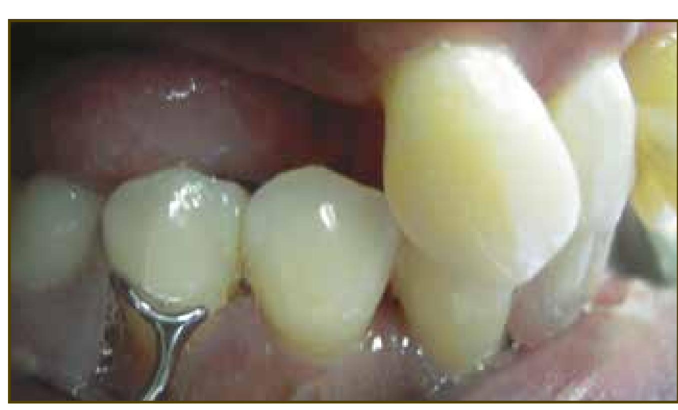


Figure 1a-f: before treatment.

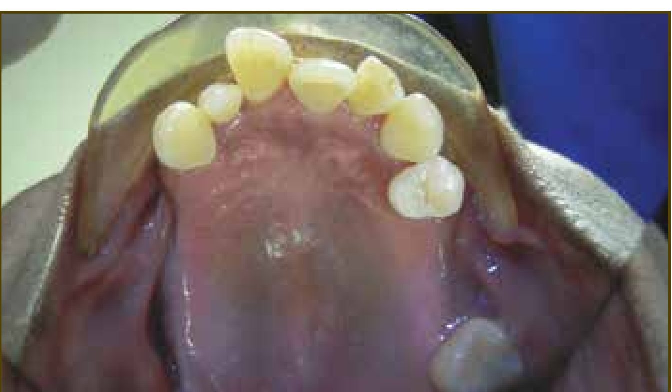


Figure 2a-b: completely edentulous in posterior quadrants.

Figure 3a: after treatment.

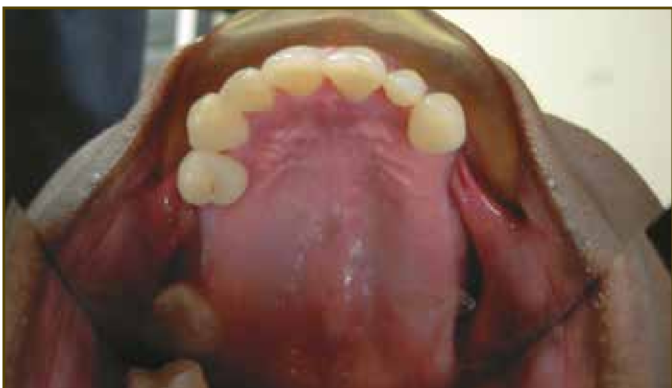


Figure 3b: after treatment.

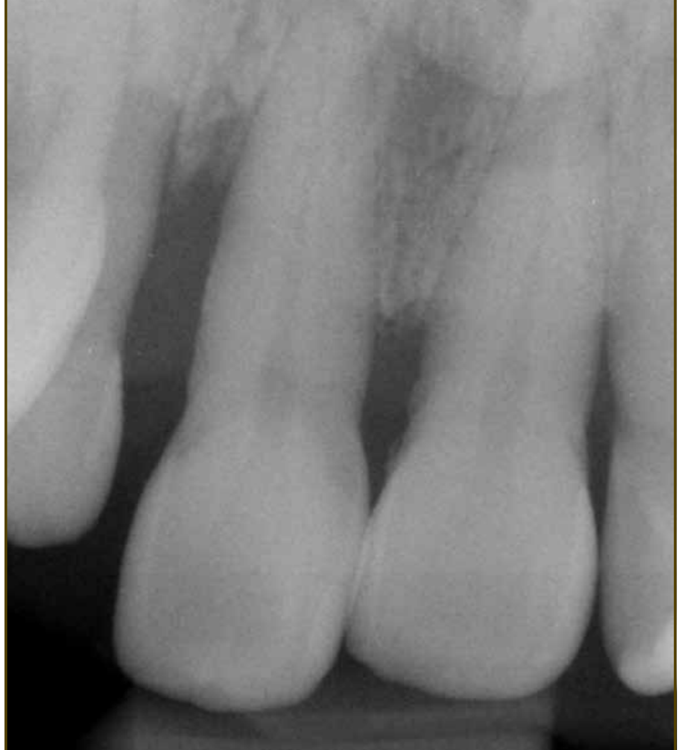


Figure 4a: pre-treatment x-ray showing bone loss and length of tooth #8.

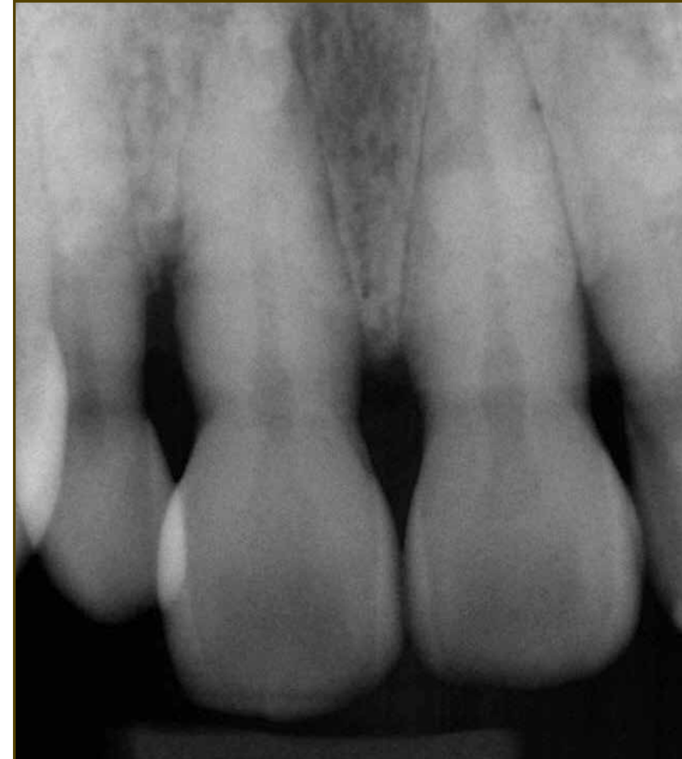


Figure 4b: post-treatment x-ray: bone level on mesial has increased to 10.3 mm, stabilizing the tooth. No more mobility. Incisal edges are now even.

So, we submitted records to Invisalign and requested upper-only full treatment. Lynnette was already wearing a removable partial denture (RPD) on her lower jaw and was happy and comfortable with it.

Our treatment goals were simple:

- Intrude the maxillary anterior teeth into the alveolar bone in an effort to stabilize them periodontally.
- Align the maxillary teeth, so that a future RPD would be easier to design and retrofit.
- Accomplish the above with no anchorage, as the patient was missing all her maxillary posterior teeth except for #16.

We created a single-arch ClinCheck using 23 aligners. There were no refinements or midcourse corrections. Lynnette was extremely compliant, and even wore the aligners while eating for increased strength and predictability. She only removed the aligners for cleaning, morning and night.

Results

We were able to achieve nice arch form with cosmetic golden proportions. The canine guidance on the right and left side was reestablished to more ideal form (**Figure 3**). The central incisors were heavily intruded into the arch, and as a result had significant increases in the bony attachment around the teeth (**Figure 4**).

The probing depths were reduced to 4 mm and mobility was greatly reduced. Gums were no longer bleeding upon probing, and the prognosis of the teeth was favorable. Retention will be achieved with a lingual bar from canine to canine (Specialty Appliances, Atlanta, GA).

Figure 5: transformed after treatment.

With newfound confidence in her smile (**Figure 5**), Lynnette is now actively pursuing posterior teeth occlusion via implants. She has committed to a lifetime of taking better care of her teeth.

Keys to the case

Anterior intrusion with a removable orthodontic device is very challenging. Some clinicians have occasionally attempted it in patients who have posterior teeth to serve as anchorage. Before this case, however, I had never heard of anyone achieving it without posterior teeth for anchorage. In this case, we relied on two complementary methods for achieving these results:

1. We went with the Galler permanent compliance package. In this protocol, the patient is required to learn to eat while wearing the clear aligner appliances. Ordinarily, the patient removes the aligners when eating. By minimizing the patient's time with the appliance off, we allow for continual apical pressure on the teeth, to maximize the probability of success despite the absence of traditional anchorage.
2. This case used bite ramps (Align Technology). These projections on the lingual surface of the aligners allow the patient to bite into the trays to keep them fully seated at all times. They also increase the intrusion forces on the anterior teeth by virtue of constant clenching and biting by the patient during the day.

Conclusion

In this day and age, implants are being placed in ever-increasing numbers by oral surgeons, periodontists, general dentists, and now even endodontists! Perhaps, instead of using implants as a first resort, we should follow the model of a different time and place, when dentists used all sorts of unconventional modalities to save teeth that had long been written off. Invisalign saved not only this patient's teeth, but her entire outlook on the dental profession. ■

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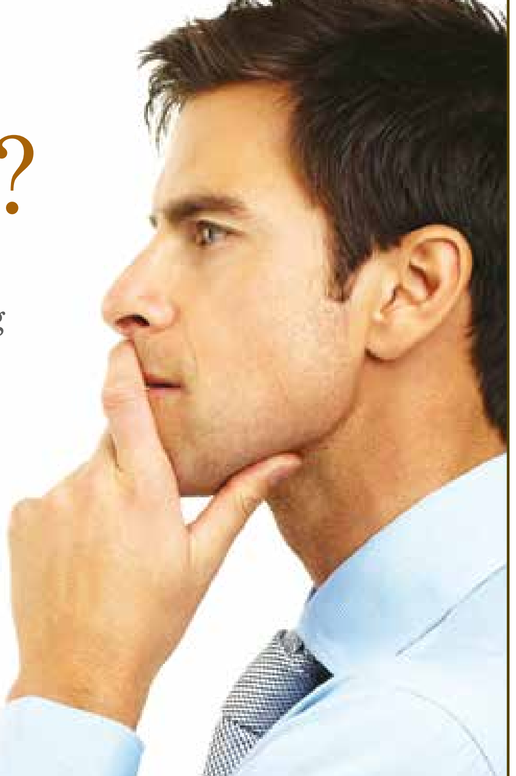


The Marriage of Clear Aligner Therapy and Restorative Care

by Benjamin Schwartz, DDS

The combination of Clear Aligner Therapy (CAT) with restorative care is a very effective one-two punch that many dentists can offer within their own practices. With proper training and appropriate case selection, dentists now have the ability to enhance their patients' smiles while vastly improving treatment outcomes. Herein we describe two cases in which we paired CAT and restorative care for some outstanding results.

Case 1

A 27-year-old woman presented at our office, expressing annoyance at her existing dental crown on tooth #7. The tooth had been treated previously with a root canal and subsequent post-core and crown. Unfortunately, the post-core/crown complex kept coming dislodged and would never stay cemented in place.

Dr. Benjamin Schwartz is a general dentist who maintains a private practice in New York, N.Y. Dr. Schwartz has published numerous articles on Invisalign therapy and its successful integration in a general dental office. He is a Fellow of the Academy of General Dentistry and a Fellow of the International Congress of Oral Implantologists.

An intraoral radiograph revealed that the tooth had a vertical root fracture and was therefore not restorable (**Figure 1**). We performed a complete work-up and consulted with the patient, who at this point mentioned that she had always been very unhappy with the diastema between her front teeth.

After a thorough discussion regarding treatment options, she expressed the desire to proceed with an extraction and implant placement. However, since she also wished to close the gap between her front teeth, we recommended treating both arches with CAT using Invisalign prior to implant treatment. It was clear that once the implant was placed, tooth movement would be much more restricted.

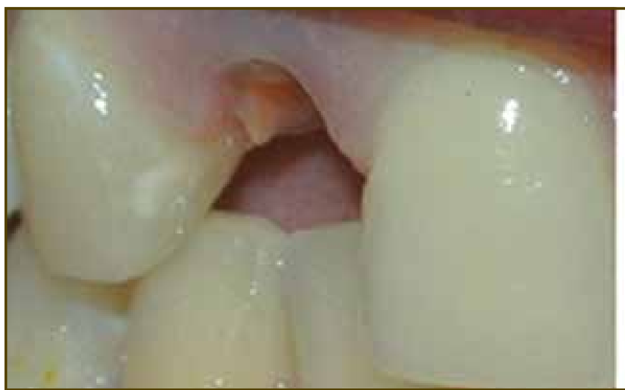
We took full arch impressions along with pre-treatment photographs. The existing crown was placed back into position for the impressions and digital photos (**Figure 2**).

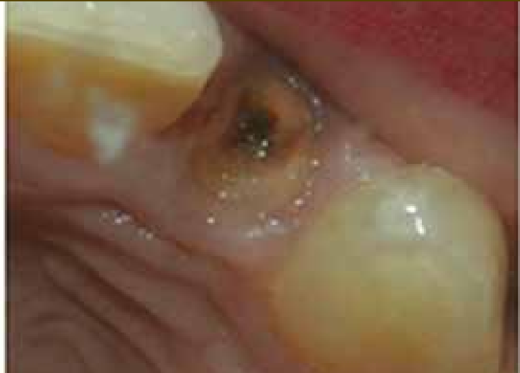
We planned the sequence of treatment so that the patient's retained root would be removed on the day of Invisalign delivery. Composite material would be placed in the patient's aligners so that it would appear as though she had a tooth present during treatment. At the end of therapy, once no further maxillary movement was to occur, we would place a dental implant and allow it to osseointegrate.

When the patient returned following the fabrication of the aligners, we removed the remaining tooth structure and placed an allograft at the site of tooth #7. Approximately 1.0 mm of IPR was performed on the lower arch, and 0.6 mm of reduction on the maxillary arch. This created space for the teeth to fully retract without any interferences. We then placed attachments, delivered the aligners to the patient, and instructed her in their use.

The patient completed the Invisalign course without disruption over the course of a year, and was eager to begin the next phase of her treatment. We fabricated an implant guide and placed a Camlog 3.8×13 mm implant (**Figure 3**). The patient continued wearing her Invisalign trays with the composite tooth in the interim. She was given additional passive aligners that she would wear while allowing for the implant to heal. After a sufficient integration time of three months, we uncovered the implant and placed a fixed crown.

The final results left the patient ecstatic! Her troublesome, non-restorable tooth was a thing of the past, and her beautiful smile shone through (**Figure 4**).





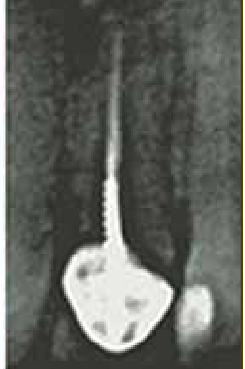


Figure 1: intraoral view and radiograph of nonrestorable tooth #7.

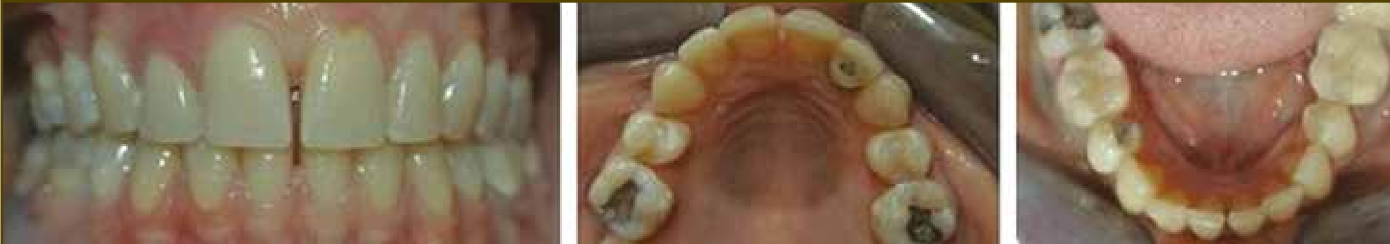


Figure 2: pre-treatment images showing diastema between upper centrals.

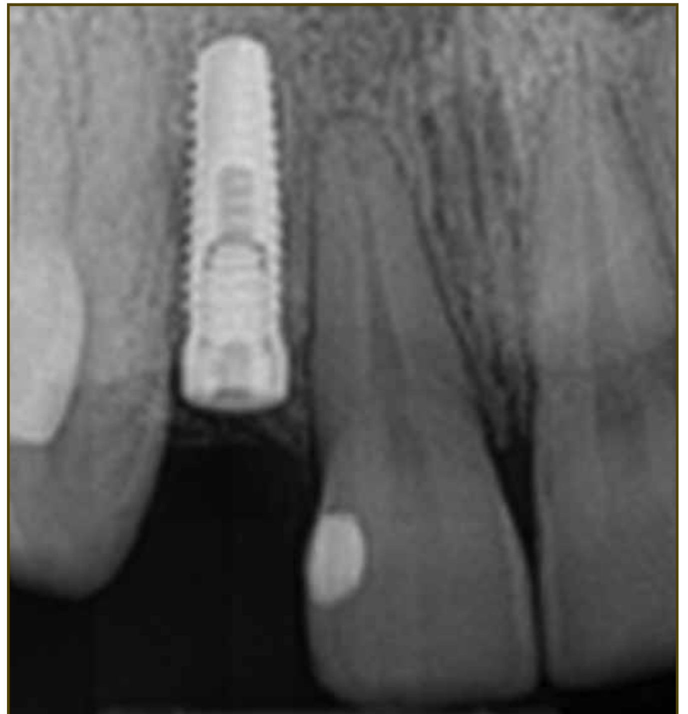


Figure 3: Camlog dental implant placed.

Case 2

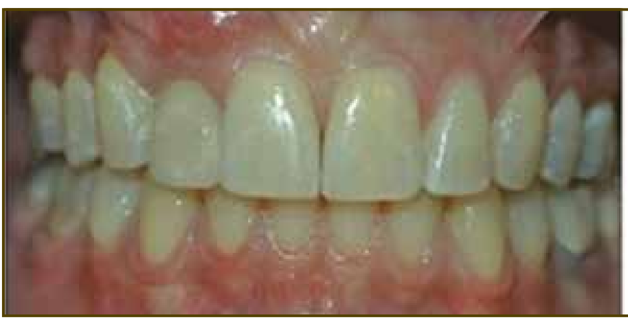
A young gentleman walked into our office after recently moving into town. He wanted to "fix his smile" (**Figure 5**), as he was getting married in 10 months! To complicate matters, he worked full time as a sales representative, so he did not want anything obtrusive on his teeth while talking to clients. We discussed the patient's goals and desires with him and then performed a full work-up.

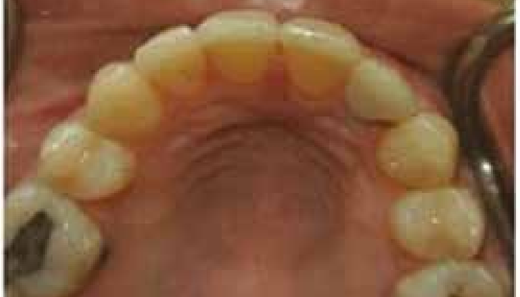
As can be seen from his pre-treatment images (**Figure 6**), the patient's arches displayed moderate crowding. In addition, he was missing tooth #3, which called for a dental implant, while many of his old bonded restorations needed to be replaced. He also required a veneer on tooth #25 owing to a previous root canal and subsequent darkening of the tooth that was incapable of being masked or corrected with internal bleaching. Quite a lot to do with very little time!

The patient did not wish to "drill down" all his maxillary teeth for relatively quick, esthetic veneers, but did want a nice smile for his upcoming wedding. After a thorough review of the choices available, including traditonal and lingual fixed braces, he was eager to begin Clear Aligner Therapy (CAT). We advised him that the treatment would not be fully completed by his wedding date, but that we would improve his smile as much as possible by that time.

We planned the CAT so that the maximum amount of tooth movement would be accomplished in the shortest period of time, with only 0.3 mm of IPR needed in the maxillary arch and no IPR needed in the mandibular arch. This would then leave us a brief period to perform the necessary restorative care to enhance his smile as much as possible before his wedding. After the wedding, the patient would then return for additional aligners to finalize tooth movements.

By orchestrating the movements of teeth, we planned to place a dental implant in site #3 during the aligner treatment. We waited a few weeks to allow the patient to get comfortable with his aligner therapy before placing the implant. Placing the implant early saved time by allowing for osseointegration to occur while the rest of the therapy was being carried out, so that the implant would be ready to restore in time for the wedding. In addition, the mandibular arch required fewer aligners than the maxillary, which gave us some time to restore tooth #25.





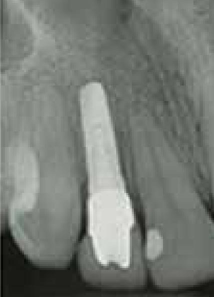


Figure 4: final result showing closed diastema and restored implant.

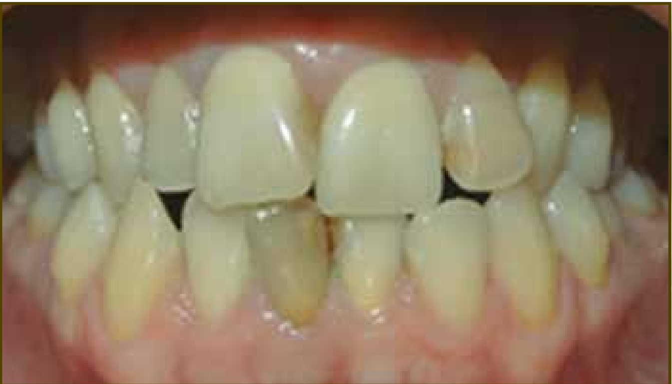


Figure 5: anterior view showing crowding and overlapping of teeth.

The aligner therapy proceeded smoothly and uneventfully during the course of the almost 10 months that we had, and although the patient's tooth movements were not fully completed, we were able to begin restoring his smile with new bonded restorations, a veneer, and a restored dental implant. This was performed 6 weeks prior to his wedding, so that any changes or adjustments would be completed before the big day. By the time his wedding date approached, he had a very nice smile to show off and be proud of (**Figure 7**). He was thrilled and couldn't stop smiling! Once he returns from his honeymoon, additional aligners will be fabricated for refinement and finishing touches.

As the cases above show, the marriage of CAT with restorative dentistry allows for better treatment outcomes and more predictable outcomes. Proper planning and execution allow sequential treatment to be performed in a calculated, logical, and carefully planned manner. More importantly, our patients were elated with their results—which made the entire process more enjoyable! ■

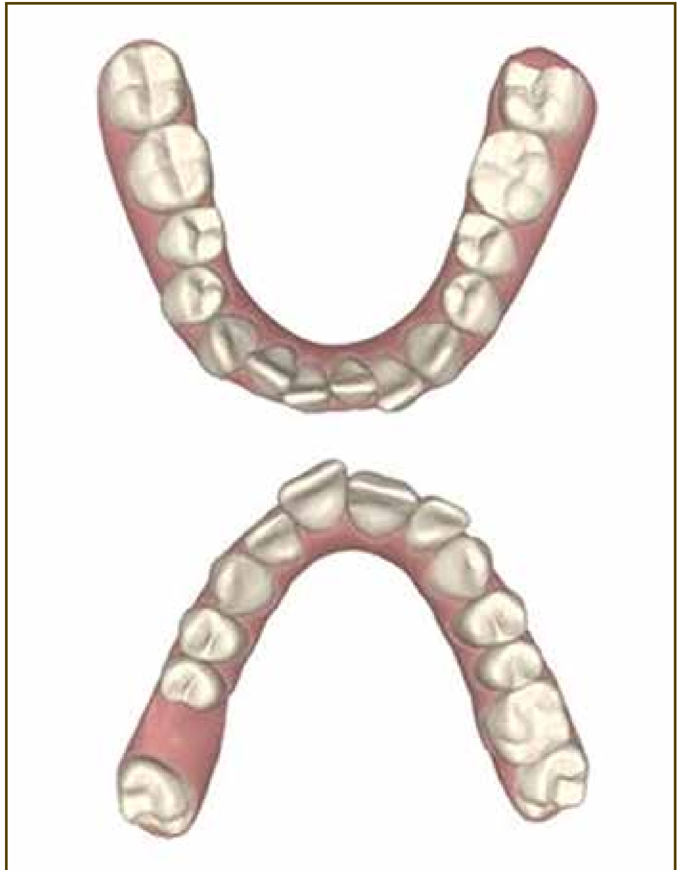


Figure 6: pre-treatment occlusal view of both arches.

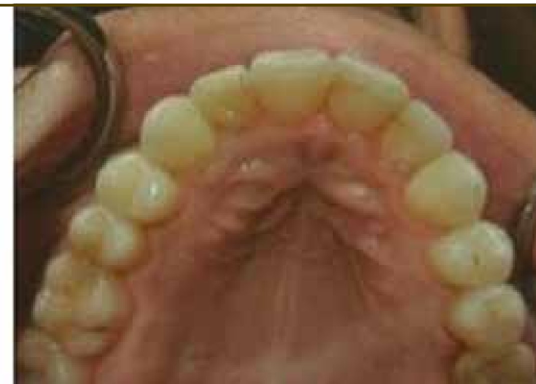


Figure 7: pre-refinement photo showing a much improved smile within a short period of time.

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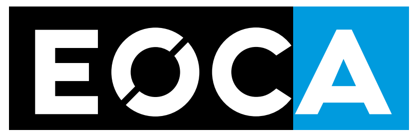

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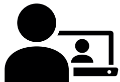

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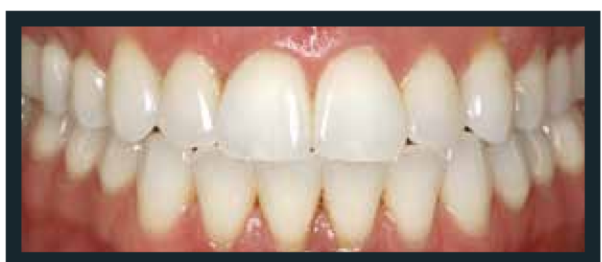

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Unit 5	GDAPOM805A	Creating space for SAT
Unit 6	GDAMPT806A	Monitoring and troubleshooting
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Feature Article

The Bite Wafer Effect: The Use of a Viscoelastic Appliance in the Management of Orthodontic Pain with Sequential Aligner Therapy

by David Penn, BDS, MBA

Dr. David Penn is the Head of School of the Postgraduate School of Dentistry.

He graduated from Sydney University Dental School and commenced practice in Sydney's eastern suburbs. In 1983 he established Southern Cross Dental Laboratories, now regarded as one of the leading state-of-the-art dental laboratories.

Dr. Penn lectures and teaches extensively, principally in esthetic orthodontics and facial esthetics. He has taught more than 1000 postgraduate students in the use of sequential aligners and esthetics. Three editions of his book *A Guide to Impressions, Implants and Indirect Procedures* have been used by undergraduates and experienced dentists since 2006.

He also was responsible for the development of dental devices including the Penn Composite Stent, the Atlas Cabriolet orthodontic retainer, and a series of accelerated orthodontic devices (Munchies) which in 2015 received a prestigious grant from the NSW Department of Innovation.

In 2011, Dr. Penn won the Ernst & Young Entrepreneur of the Year in the services division.

Dr. Penn established Penn College in 2014 and a specific faculty, the Postgraduate School of Dentistry, in 2015. He has been featured in the NBC Universal TV series *Changing Faces*.

Orthodontic pain

Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage. It is a subjective experience, with great individual variation, and depends on various factors such as age, gender, emotional state, culture and past pain experience.[1] Orthodontic pain is perceived as soreness, pressure and tension in affected teeth.[2]

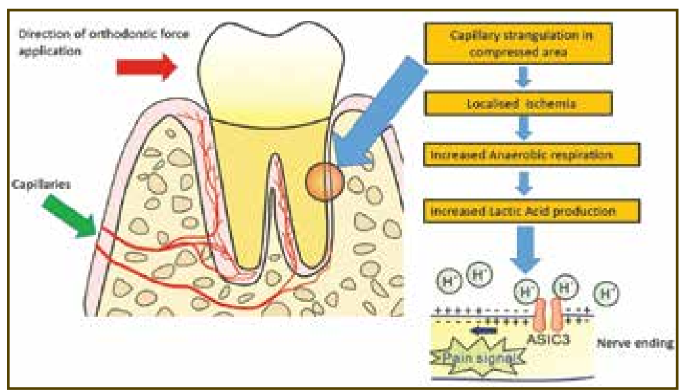

Figure 1: When an orthodontic force is applied to a tooth, the root moves in the direction of the force toward the periradicular bone, with the periodontal ligament wedged in between them. This produces a capillary strangulation due to compression, and local ischemia commences. Periodontal cells then undergo anaerobic respiration, causing local acidosis, and the proton ion (H+) binds to ASIC3 receptors on sensory endings to generate pain. As local ischemia progresses, mast cells and fibroblasts cause the release of bradykinin and prostaglandin, which bind to sensory endings to generate further pain.

Pain is a common experience in most orthodontic patients. In a study, 90% of adult patients described orthodontic treatment as being painful.[3] This percentage seems to increase to 95% in children undergoing treatment, according to another study.[4] Hence, pain is a major concern to patients and clinicians, and many studies have reported this discomfort to be a major obstacle in seeking orthodontic treatment, and an important reason for discontinuing treatment.[3-5] Saloom[3] reported that up to 30% of patients contemplated terminating their treatment early because of orthodontic pain.

The underlying mechanism for orthodontic pain is initiated by orthodontic forces which create zones of pressure and tension in the periodontal ligament space, resulting in an inflammatory reaction within the periodontium and pulp, along with the release of inflammatory mediators. It is assumed that the perception of pain is influenced by changes in blood flow and is correlated with the release of mediators such as prostaglandins,

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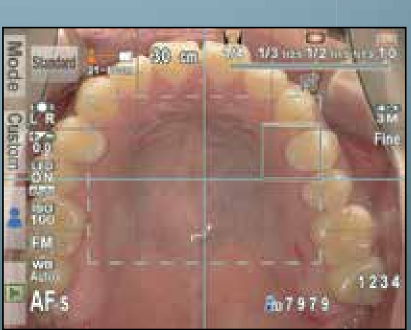

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leukotrienes, histamine, serotonin and substance P, which cause a hyperalgesic response (**Figure 1**).[1,2]

Management of orthodontic pain

Management of orthodontic pain is an important aspect of orthodontic treatment, whose aim is decreasing the discomfort level of patients, and thus improving health-related quality of life. Additionally, management of orthodontic pain increases patient compliance and reduces the interference with patients' masticatory performance and speech.[2,5]

To alleviate pain, pharmacological and mechanical interventions are commonly used in orthodontics. Alternative pain management mechanisms include behavioral intervention (cognitive behavioral therapy [CBT], physical activity, music therapy), laser irradiation therapy and gene therapy.

Pharmacological interventions

Nonsteroidal anti-inflammatory drugs (NSAIDs) such as acetaminophen, ibuprofen, and celecoxib are the most frequently recommended drugs for pain and work by inhibiting prostaglandin synthesis.[6] However, a number of risks associated with the use of traditional analgesics in orthodontics are raising doubts about the use of these drugs as a primary or sole pain control intervention.

Firstly, studies have suggested that NSAIDs reduce the rate of tooth movement during orthodontic treatment by inhibiting the activity of COX enzymes, a mediator for the synthesis of prostaglandin. Prostaglandin promotes local inflammation and bone remodeling, which facilitates tooth movement. Conversely, decreased levels of prostaglandin following NSAID intake inhibit osteoclasts and reduce the rate of tooth movement.[4,7,8] For orthodontic patients, this prolongs treatment.

Secondly, in recent years, the use of NSAIDs has been associated with different adverse reactions that include thrombocytopenia (blood platelet deficiency), skin rashes, and headaches, particularly in young orthodontic patients.[3,9] Lastly, the risk of overuse of NSAIDs has been raised as a concern, particularly when the drugs are over-the-counter (OTC) analgesics.[6]

Consequently, nondrug interventions for pain control, such as anatomically specific biting devices (e.g., Munchies®) or chewing gum, have been recommended in the Postgraduate Progam in Aesthetic Orthodontics at the Postgraduate School of Dentistry, where the device was developed.

Mechanical interventions

Mechanical modalities such as chewing gum and biting devices have been proposed as nondrug methods to relieve orthodontic pain.[9]

The proposed mechanism of these interventions is that they induce microdynamic movements and loosen the tightly grouped periodontal ligament fibers around the nerves and blood vessels, restoring the normal vascular and lymphatic circulation of the periodontal ligament, thus preventing or

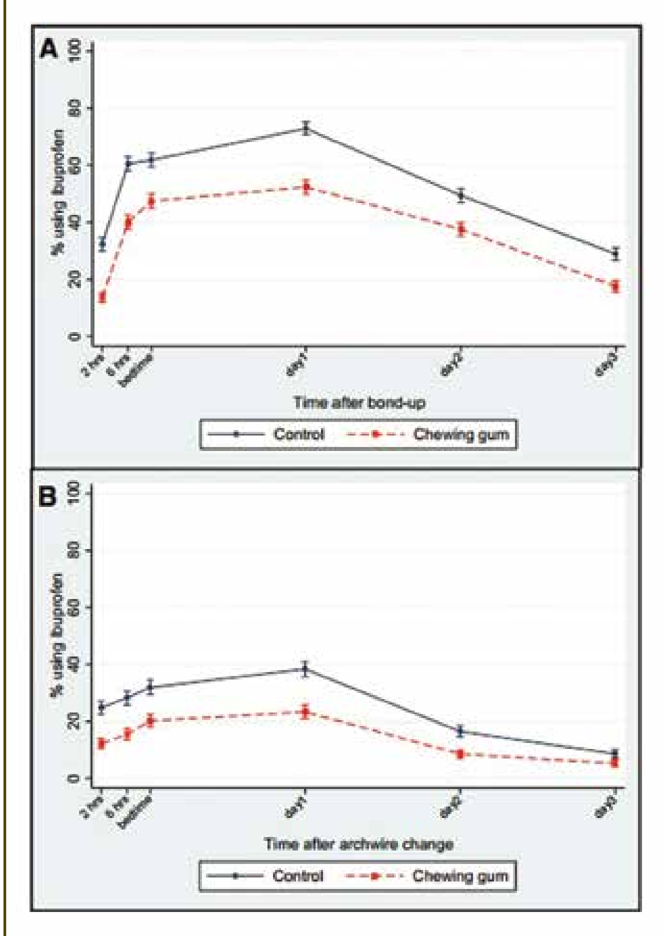

Figure 2: percentages of patients using ibuprofen after (A) bond-up and (B) arch wire change.

relieving inflammation and edema, and finally relieving pain and discomfort.[9]

In other words, biting on a viscoelastic device such as Munchies or chewing on sugar-free gum induces what has been described as the "bite wafer" effect. The biting pressure temporarily displaces the teeth under orthodontic force, alleviates the orthodontic pressure, and prevents the formation of ischemic areas, thus relieving pain.

Many studies have compared the effects of pharmacological interventions and mechanical interventions. A 2016 randomized controlled trial (RCT), carried out in the United Kingdom with 1000 study participants undergoing fixed orthodontic treatment, concluded that the patients in the chewing-gum group (who used sugar-free chewing gum to manage orthodontic pain, with an option to use ibuprofen as well) reported significantly less use of ibuprofen for pain relief than those in the control group (who took ibuprofen as their only pain-management method) (**Figure 2**).[4] This study supports the assertion that the use of mechanical intervention can significantly reduce the need for traditional analgesics and hence the risk of adverse effects.

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In addition to reducing the use of analgesics, some studies have indicated that biting silicone wafers can be as effective as drugs, or even more effective, as a solution for pain control. Murdock[6] et al., when comparing pain response during the first week after initial arch wire placements in patients randomly assigned to two pain management groups—chewing on bite wafers as desired vs. taking NSAIDs—concluded that the bite wafers were at least as effective as NSAIDs for pain management after orthodontic procedures.

In a study by Farzanegan et al.,[9] the bite wafers were found more effective than ibuprofen in orthodontic pain reduction when compared with the placebo group. The authors recommended the use of chewing gum or bite wafers as a substitute for ibuprofen to relieve orthodontic pain.

Similarly, another RCT by Saloom,[3] comparing the use of bite wafers and paracetamol (acetaminophen) in reducing pain and discomfort associated with initial orthodontic tooth movement in both adolescents and adults, concluded that bite wafers reduced pain more obviously and safely in comparison to paracetamol, especially in adolescents (**Figures 3 and 4**).[3]

The majority of the comparative studies mentioned above suggest that both chewing gum and biting on mechanical devices have a similar effect in managing orthodontic pain. However, mechanical devices seem to present some additional benefits over chewing gum:

a) As Farzanegan et al.[9] observed, the viscoelastic bite wafers tend to have varying toughnesses (as opposed to a single hardness of chewing gum). This makes them more effective in displacing teeth, solving ischemia and, ultimately, managing orthodontic pain.

b) Unlike chewing gum (which most people chew with only their back teeth), a well-made, anatomically shaped mechanical biting device is more effective in pain control for both front and back teeth.

Munchies®

Munchies are an anatomically designed Type 1 medical device designed to accelerate aligner therapy by ensuring the optimization of aligner fit and the delivery of correct forces, and to minimize pain during treatment.

Munchies are specifically shaped to intimately fit upper anterior, lower anterior and posterior teeth, using 3 separate arms, in conjunction with the wear of clear aligners. They are fabricated using state-of-the-art medical-grade silicone technology, with ideal viscoelastic properties which allow them to deform momentarily when engaged by both arches (one arch pushes the device into the other arch).

The device generally captures about 30% of the clinical crown and its aligner. This optimizes seating, minimizes "aligner slip," and delivers a greater propensity for expression of intended orthodontic movements.

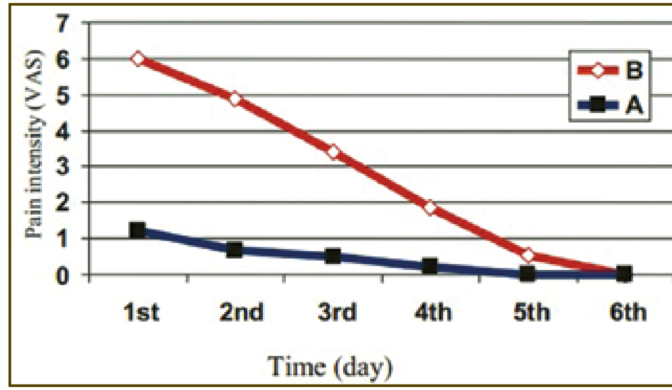

Figure 3: pain intensity before (B) and after (A) using bite wafers in adolescents.

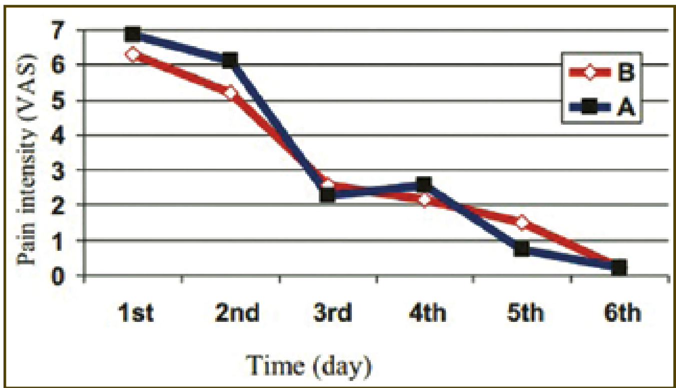

Figure 4: pain intensity before (B) and after (A) using paracetamol in adolescents.

In a study by Sharp and Dove[10] in 2015,100% of patients reported comprehensively superior fit of aligners when using the Munchies immediately after each aligner reinsertion, and 70% of patients reported pain relief during all stages of orthodontic treatment by inducing the bite wafer effect.

Munchies use a series of medical-grade silicones of differing Shore hardness measurements, described as "gentle" or "firm." The patient should commence with the softest Munchies device that provides pain relief after the insertion of a new aligner, and then move to a slightly harder device after about 8 hours.

This use of Munchies of varying hardness at different stages after orthodontic adjustment or new aligner insertion is critical in order to maximize pain relief.[11] Ideal pain management is achieved if Munchies are used by biting in the posterior region (back teeth) for 3 to 4 minutes at 6- to 8-hour intervals, for up to 1 week if pain persists.

To sum up, the pilot study carried out by Sharp and Dove showed that Munchies are a very effective method of management of orthodontic pain. However, further studies using Munchies with sequential aligner therapy and fixed orthodontic appliance therapy are required to complement the results. Issues remaining to be resolved include

- Optimal intraoral time per day with Munchies for pain relief and for ideal aligner seating

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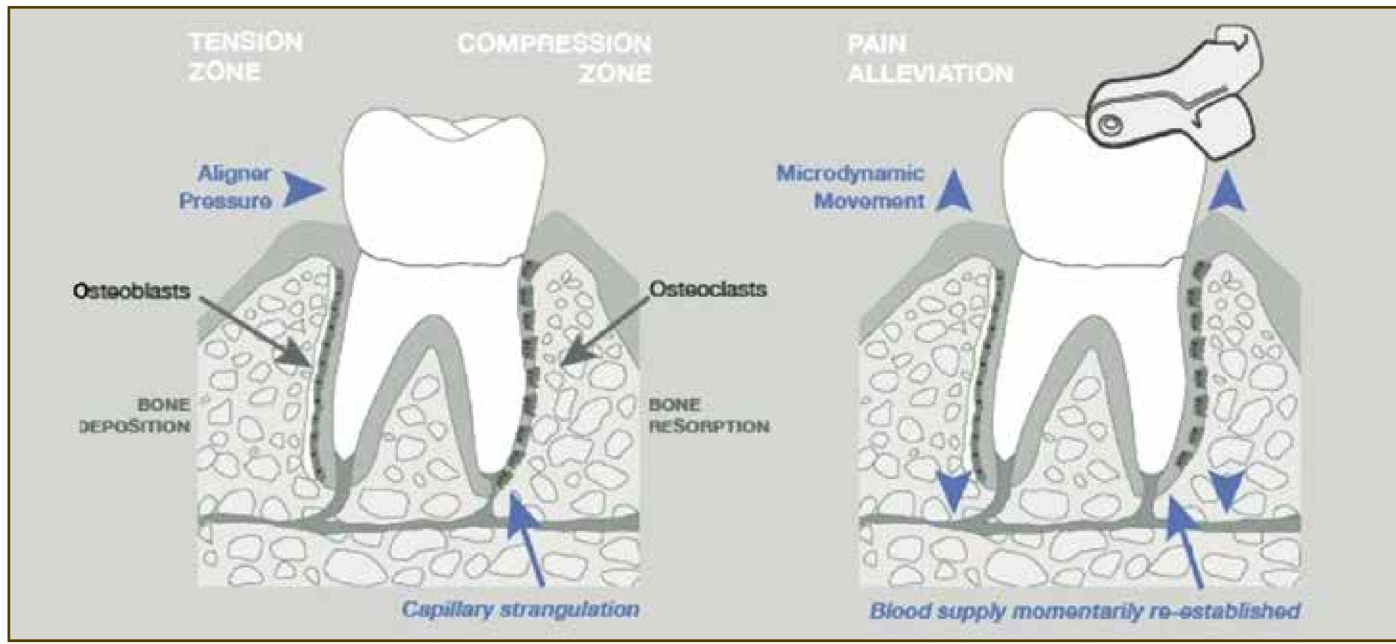

Figure 5: pain alleviation from use of Munchies.

- Which hardness of silicone is most efficacious for specific movements (Among about 2000 patients who have been using them, the harder devices seem to be more popular for seating, and softer devices for pain alleviation.) ■

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Figure 6a: Munchies®.

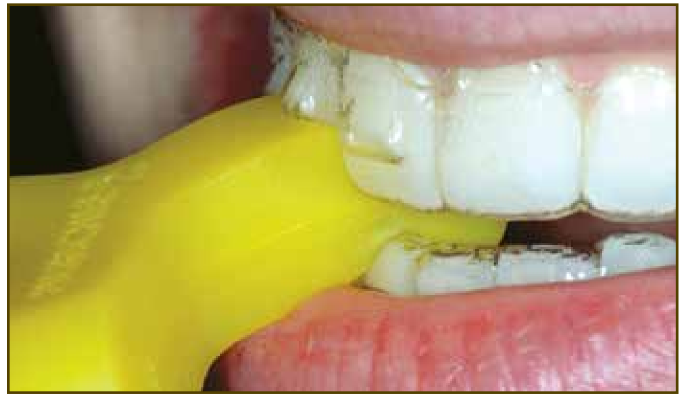

Figure 6b: Munchies®.

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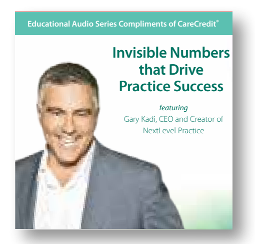

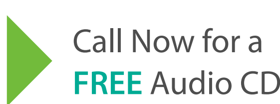

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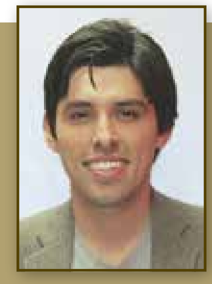
Product Review

EverSmile WhiteFoam

by Camilo Triana



Camilo Triana is a seasoned marketing professional with over a decade of marketing and advertising experience in the cosmetic and beauty industry. He previously specialized in online and social media marketing campaigns for skin-care products.

Mr. Triana joined EverSmile, Inc., while working part time as an orthodontic treatment coordinator. In this capacity he interacted with patients at every stage of the aligner experience, such as consulting with patients, coordinating treatment plans with the doctors, and helping patients through this unique process. This priceless interaction gave him a unique perspective into orthodontic patients' needs as they undergo aligner therapy.

Mr. Triana also worked closely with the oral-care formulating chemists who developed the EverSmile WhiteFoam product by guiding them as to what patients wanted while wearing aligners. He now heads up the international sales initiative that has been growing EverSmile WhiteFoam and signing up international dealers.

One of the most frequent questions patients undergoing Clear Aligner Treatment ask is "How do I keep my aligners clean and fresh?"

In 2012, Dr. Michael Florman, an orthodontist and top 1% Invisalign provider, contacted his Invisalign representative and asked her what Invisalign recommended for cleaning aligners. His representative told him that the only products available required patients to soak the aligners in appliance cleaners. This did not solve the problem of cleaning and freshening during the day, as soaking aligners was not practical on the go or at work.

Dr. Florman contacted one of his patients, who was an oral-care product formulator, and presented the problem to him. About six months later, EverSmile WhiteFoam was born. EverSmile WhiteFoam combines hydrogen peroxide and oral care surfactants and cleaners into a foam that cleans aligners and attachments.

To use this product, the patient removes the aligner from the mouth and applies the foam to the inside of the aligner; one-half to one full pump of the bottle is sufficient. The patient spreads the foam to cover all areas and then reinserts the aligner. He or she then spits out any excess foam, and the procedure is complete.

The foam is easily applied to aligners and can be used in the mouth (while the patient is wearing the aligners), or outside the

mouth (while aligners are in their case). The formula is gentle to the teeth and gums, causing no sensitivity, and offers patients a value-added effect of whitening their teeth while they align them.

EverSmile recommends the use of WhiteFoam once or twice a day, though patients can apply the foam as often as 4 times a day if they wish. The whitening effect of the hydrogen peroxide will penetrate through tooth enamel under any aligner attachments, so there will be no visible discoloration when the attachments are removed.

EverSmile WhiteFoam is approved for use on aligners manufactured by Invisalign and ClearCorrect, and all vacuum-formed plastics used to make Essix, Invisalign and Vivera retainers. It may cause color changes if applied to Hawley retainers or other acrylic appliances. The product is not recommended for use by patients who are pregnant.

Since the company's official launch in April 2015, close to 1000 dentists and orthodontists have begun using EverSmile WhiteFoam. Doctors can either purchase the product themselves and resell it to patients, or refer patients to the online portal. Retail price to patients is $25 for a 1- to 2-month supply (depending how many times per day they use the product).

In a retrospective study performed at one practitioner's office, 8 out of 10 patients who purchased EverSmile WhiteFoam repurchased the products.

Disclosure

The author is the general manager of EverSmile, Inc. ■

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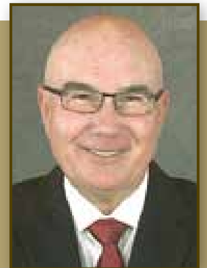
Practice Management

What to Do When a New Patient Calls: Front Desk Call-Handling Advice

by Jim Du Molin



According to his website, Jim Du Molin "is a leading Internet marketing expert for dentists in North America. He has helped hundreds of doctors make more money in their practices using his proven Internet marketing techniques. He developed **TheWealthyDentist**® email newsletter as a way to share the 30-plus dental management and marketing strategies he has developed and tested over the last 20 years working with dentists."

When a new patient telephones your office, there are different ways of handling the call.

Some receptionists immediately enter the patient's information on the computer; others prefer to take the info by hand on a telephone control slip. It doesn't matter which way you do it!

No matter how you're taking down the information, here are the key points to cover.

- **First, you want to get the patient's name.** "Mrs. Klausouski, could you please spell your last name for me?" You want to make sure it's spelled correctly and that you've written down how it's pronounced.
- **Next**, you also want to get the **referral source**, because it's important that you know how these people found you. So you just ask, "How did you learn about our office?"
- **Then:** "The **reason** for your call today is…?"
  Is it an initial exam, an emergency, or something else?
  The next thing is: "When did you last see your previous dentist?"
  With a new patient, you have to know who the **previous dentist** is. So ask, "Who is your previous dentist? May I have the phone number?" Or, "Where are they located"?"
  You always want to make sure you note the patient's chief concern.
  This is true even for a patient who's just coming in for a routine exam, cleaning, or consultation. "Is there anything in particular that you would like the dentist to discuss with you?" You want to make sure that you've noted if there are any special concerns so the dentist can cover them in person.
- If this is an emergency patient: "What can you tell me about your problem?"
  And very important, after you ask this question, listen carefully. **Let them talk. Don't be impatient**. Just write down what they're saying. Don't push them and don't interrupt them.
- Then I'd say, "I need to get just a bit more information from you. Will you be using a plan to help you with the cost of your treatment?" You tell them your **financial arrangements** policy.
- "The fee for your comprehensive exam and full series of radiographs will be X. We ask all our patients that join our practice to take care of these fees in full at the time of treatment."
  You want to be as clear about your **fees** as possible. For new patients, tell them how much it's going to be so they're not surprised. Mention which payment types you accept.
- You should end by building up the dentist or hygienist in the eyes of the patient: "You're really going to like and enjoy Dr. X! He's a great dentist and our patients really like him."
- Finally, repeat your name, confirm the day and the time of the appointment, and let them know they can call you if they have any questions beforehand.
- Remember to **let the patient hang up first**. It's polite.

Take care! ■

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Seven Ways to Get Patients to Call You Back

by Amy Drewery

Introduction

We all know that the best chance you have of scheduling treatment for patients is when they are face to face with you, physically in your practice. Once they leave, the likelihood of scheduling them as a result of a phone call is pretty slim. BUT... that doesn't mean you shouldn't follow up periodically to be sure patients haven't fallen through the cracks.

Call with the right intent

Most of the time, when we call patients on pending-treatment or recare lists, we call with the intent to schedule: "Mrs. Jones, are you ready to schedule that crown?" Well, if Mrs. Jones were ready, she'd probably have already been in your office.

More than likely, your calls and messages are just adding to the "noise" that your patients are bombarded with every day. If you're going to separate yourself from the noise, then you have to do something different from everyone else out there. You have to stand out, be likable, and actually deserve a return call.

Here are **7 of the best ideas** we've found to help you stand up, stand out and earn a return call from your patients.

1. Let them off the hook.

In a voice mail or e-mail, it's a great idea to tell a patient that it's OK to say no.

Say something like: "If the timing isn't right, that's okay. Just let me know so I don't become a follow-up pest." The vast majority of the time, one of two things will happen. Either they'll call you back and say, "Yes, I'm ready to move ahead," or they'll say, "No, we haven't made a decision yet," and apologize for not getting back to you sooner.

Either way, you're ahead of the game because now you know the truth about what's going on.

2. Send a handwritten note.

Sending a handwritten note after your first visit with the patient will dramatically increase your chances of getting a return call, in the event he or she doesn't schedule. Why? Because a handwritten note increases your likability, helps patients to feel good about you, and encourages them to take your calls.

When was the last time you received a handwritten note? Chances are it had more of an effect on you than the countless e-mails and voice messages you receive.

3. Put them on auto-drip.

If you've tried everything you can think of and still can't seem to get through, but you aren't quite ready to give up entirely, put the patient on "auto-drip": send something interesting and of value at least every month. It also helps if you're active with your social media—when you are present on your patients' radar with positive, enthusiastic activity, they're a lot more likely to refer to you, and call you when the timing is right for them to make an appointment.

4. Let the patient call the shots.

After every conversation, be sure you allow the patient to determine the next steps. "When would you like me to follow up? What would be the best time and number?" That way, if the time for the follow-up call comes around and the patient doesn't answer, you can leave a message like, "I'm calling because the last time we spoke, you asked me to call you..."

5. Call with the intent to understand, rather than the intent to schedule.

If you leave another old, tired message asking your patient, "Are you ready to schedule your treatment?", you can count on not getting a call back. But what if you tried this instead? "Last time we saw you in our office, we talked about a few things, but I'm not sure we really understood what was important to you, and how you see us supporting you. I'd love the opportunity to get some feedback from you, to be sure that we're on the same page next time around."

6. Change your media.

If a patient hasn't responded to an e-mail you sent within 3 to 4 days, call to ask if he or she received it. Likewise, if you don't get a response to a phone call, send the patient an e-mail.

As the lead coach for Brady Group, LLC, Amy Drewery has been coaching dentists and their teams since 1999. Amy also teaches many Brady Group events, and is a contributing writer to the Brady Group Blog and Training Materials. The Brady Group provides customized coaching focused on increasing your net income, and decreasing stress, by incorporating systems and personally training your team to become partners in helping you achieve your vision. Members also learn to work smarter, not harder, allowing them to accomplish much more in less time at the office.

Visit **www.bradygroupllc.com** for more information, or you can reach Amy directly at **800.592.7239**.

If you'd like to receive Amy's complimentary electronic newsletter, just email her directly at **amy@bradygroupllc.com** and she will get you set up!

Everyone has their own preferred way to communicate. Your job is to find out which communication tool is easier for the patient.

7. Only the patient decides to be inactivated.
I was talking with the staff at a practice recently who said they had been purging charts and inactivating everyone that hadn't been in over the last 18 months. Well, at some point those patients will probably decide to get back to the dentist. If you're not marketing to patients who haven't been in regularly, someone else will! Don't ever leave a message that you will be inactivating the patient if he or she doesn't return your call. Instead, whether by voice or e-mail, try something like this:

"I noticed that it's been a couple of years since we last saw you. We know it's a busy time, and we just want you to know that you're always welcome back when the timing is right. If you've moved on, the last thing I want is to become a follow-up pest! If that's the case, you can call or e-mail back to let us know. Otherwise, if it's all right with you, we'll continue to keep you in the loop through our regular newsletter and social media." ■

Questions? Please contact Amy Drewery at 800-592-7239.

Upcoming AACA sponsored course:

Accelerated Invisalign Orthodontics

Course: 5750
Instructor: Dr. Ben Miraglia, DDS
Date: Tuesday, November 29, 2016
Time: 6:30 pm-8:00 pm
Tuition: $25—2 CEUs
Location: New York Marriott Marquis Hotel, Sky Lobby, 16th Floor

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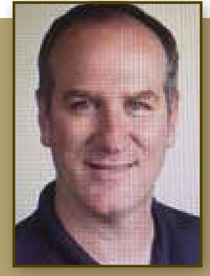
Viewpoint

The Importance and the Value of Proper Design and Use of Retainers

by Adam Goodman, DMD



Dr. Adam Goodman graduated the University of Pennsylvania School of Dental Medicine in 1989, and completed his postgraduate orthodontic residency at Montefiore Medical Center in 1993. He now practices orthodontics in Manhattan and Riverdale, N.Y.

He is a former president of the Bronx County Dental Association, and a member of the American Association of Orthodontics and the Northeastern Society of Orthodontists. He is branded with Invisalign, is one of the largest submitters in the country, and has lectured on the topic across North America.

He has frequently lectured at prestigious meetings such as the Greater New York Dental Meeting, the California Dental Association Meeting, and the Big Apple Dental Meeting. He is known for his mentoring of CAT providers, as well as for his practical and frank discussion of the Invisalign appliance—both its advantages and its limitations.

In our office, at the conclusion of orthodontic treatment, we carefully review with patients and parents the necessary post-treatment retainer protocol. Despite this, several times a month I am asked by a parent: "How long does he have to wear these retainers?"

Every few years I devise a new reply to this ubiquitous question. I've employed

- the intimidating: "For the rest of his life";
- the humorous: "For life—**my** life, 'cause after I'm gone I don't really care if he wears it"; and
- the terse but vague "Indefinitely!"

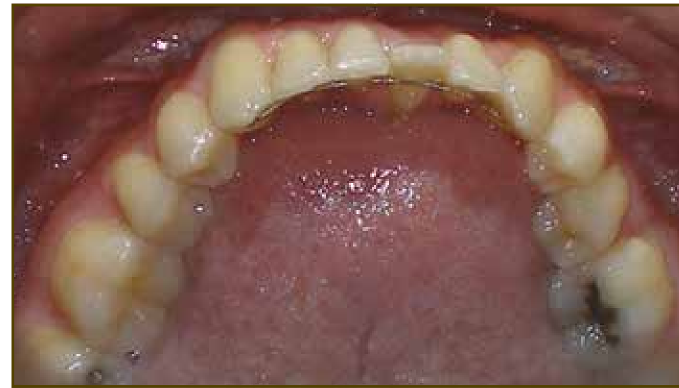


Figure 1: note extreme lingual root torque of tooth #25.

Figure 2: note slight palatal root torque in addition to crown flare.

But my current reply, I believe, is the most accurate: that the retainer should be worn for as long as nicely aligned teeth are desired.

Yet this reply is often countered with, "But I had braces and I don't wear a retainer and my teeth look fine...." And they usually do look fine—but not nearly as nice as we now expect teeth to look at the conclusion of orthodontic treatment.

My point is this: The esthetic bar has been raised in our society. More kids and adults have undergone orthodontic treatment than ever before. High-definition TV and video, high-resolution photos, close-up selfies: they all reveal and even highlight a less-than-ideal dental alignment, which leads to increased awareness and eventually to more treatment.

We don't do it like we used to

The matter is complicated by the evolution in treatment modes over the decades. Previous generations of orthodontists favored the extraction solution for dental crowding. This led to occasional sequelae of extraction cases that were either misdiagnosed or treated with poor mechanics. Still, one thing to be said in favor of that approach is that the crowding usually did not revert. This is why many older parents might share that their teeth look good without having worn a retainer in years. This might also be why orthodontists of yesteryear often told their patients that retainers need only be worn for 1 to 2 years. Maybe they felt that 1 to 2 years of retainer wear was enough to keep the teeth looking "good," consistent with the standards of that era.

In contrast, most orthodontists in this age favor a nonextraction treatment approach. Alignment achieved by these methods will usually expand the intercanine width—a result which has been shown in a multitude of studies to be subject to relapse.

What are the choices?

Readers of this journal are all familiar with removable retainers, and know their effectiveness if cooperation is consistent. But that's often a very big "if."

Fixed retention remains an option that can help ensure a stable result without relying on patient cooperation; but it is not a panacea against relapse. Our office must see 20 to 30 patients each year who have fixed, bonded retainers in various states of disrepair, and usually the teeth have already shifted by the time the patient comes in.

Quite often the best attempts of the practitioner lead to iatrogenic tooth relapse, as a bonded retainer that is not completely passive can cause tooth movement, sometimes a bizarre root movement with a characteristic root torquing. (This is a result that you can rarely achieve when you are trying to in treatment!)

Figures 1 and 2 illustrate such a case. The pre-treatment position of tooth #25 is unknown (presumably lingual). But the presentation of the tooth as shown, with its extreme lingual root torque, is not the usual relapse display, and is probably iatrogenic, caused by unintended forces placed on the teeth by the bonded splints.

Tooth #9 also displays slight palatal root torque in addition to crown flare. A space has opened distal to #9—also not a normal finding associated with relapse of crowding. The bonded retainer likely caused unwanted movement of #9.

While bonded retainers can occasionally lead to iatrogenic tooth movement as described above, the much more common detrimental result of a bonded retainer is that it breaks free from individual teeth or simply comes off entirely. When this happens, in the patient's view, the ensuing relapse is now the practitioner's fault.

Many nicely finished cases still have 2 to 3 mm of overbite, or very prominent palatal cingulum or marginal ridges, all making upper bonded splints problematic and difficult to place. Consequently, we rarely place upper splints. This makes removable retainers our only option. When patients learn that they have to wear an upper retainer, though, they often decide that wearing a lower retainer as well is not asking too much.

In fact, asking patients to wear retainers at night is not asking too much, when you take a step back and think about all the effects of time on the body and the inherent instability of most cosmetic corrections outside the mouth. Perhaps it would help to impress upon patients the value of retainer wear by drawing an analogy: Suppose someone invented a belt that was clinically proven to stop weight gain just with night wear, or a face cream that completely prevented wrinkles just by application before bed. Surely this would be in the running for the news story of the millennium, and people would use the new invention religiously each night!

Keeping one's teeth nicely aligned as one ages may not be as important to everyone, but for as long as nicely aligned teeth are desired, removable retention is effective. If we take the trouble to explain it at the start of treatment, it's really not as overwhelming or impractical as patients and parents initially think. ■

Do you have an idea, treatment, or review that you feel your peers would benefit from? Contact editor@aacaligners.com to find out how to author articles in future issues of the Journal.

Industry News

CareCredit

Free Dental Practice Management Audio Program Featuring Bernie Stoltz

CareCredit, a leading patient financing company, is expanding its educational library with the addition of a new audio program, *Build Your Practice by Building Patient Loyalty,* by Bernie Stoltz, CEO of Fortune Management, the world's largest executive coaching organization for doctors.

In the new audio program, Stoltz gives practical advice on how to build a practice with patients who are committed to their oral health and loyal to the dentist and team. Stoltz details how to create a practice environment that patients fall in love with, how to emotionally connect with patients at every communication opportunity, and how to attract new patients in today's social media world. He also shares his "power questions" that energize and empower the dental team to deliver consistent excellence, resulting in patients who enjoy coming to the practice and referring friends and family.

Practices that currently accept the CareCredit credit card can request a copy of this complimentary audio program by contacting their Practice Development Team at 800.859.9975, option 1, then 6. Practices that have yet to add CareCredit as a financing solution can call 800.300.3046, option 5, to request their complimentary copy.

Align Technology

Announces Doctor Site Enhancements

- New Online Payment portal that allows dentists to conveniently make payments, access invoices and statements, and set email notifications.
- New look and feel for the Align Store, along with payment at time of order and availability of iTero® scanner items.
- New Staff Account role options that gives dentists the flexibility to assign specific roles and tasks to their staff, ranging from treatment management to store purchases.
- Improved order process with the ability to enter active promotion coupon codes online.

ClearCorrect

Press Release

ClearCorrect, LLC, has announced that a court decision in its favor in a case of patent infringement has been allowed to stand and that the ruling will not be appealed.

In November of 2015, the United States Court of Appeals for the Federal Circuit cleared ClearCorrect of any liability in the International Trade Commission (ITC)'s investigation relating to Align Technology's claims of patent infringement.

Several of Align's patents remain at risk of cancellation, as the United States Patent and Trademark Office continues its inter partes review and ex parte reexaminations initiated by ClearCorrect.

Now that the ITC decision is finalized, Align's sole remaining lawsuit against ClearCorrect is expected to resume in Texas federal court. ClearCorrect anticipates that this final case will demonstrate that ClearCorrect does not violate any valid patents held by Align.

ClearCorrect is celebrating its 10th year as a leading manufacturer of clear aligners, discreetly correcting malocclusion for teenagers and adults. For more information, visit clearcorrect.com or contact Elizabeth Coffman
(888.331.3323, ext. 6229; ecoffman@clearcorrect.com).

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Thank you to all the Invisalign®-trained doctors for
3 MILLION SMILES!

Thanks to your skill and vision, 3 million patients and counting are now proudly sharing their amazing Invisalign smiles with the world.

Help us give beautiful smiles to children in need.

In celebration of this milestone, we've partnered with Operation Smile℠ to help children across the globe born with cleft lips and cleft palates.

Through March 3, 2018, Align Technology will donate $1 for every public share of a photo of a person's smile on Facebook, Twitter, or Instagram with the hashtag **#3millionsmiles**—for a total donation of up to **$1 million**.*

Now more than ever, a smile is worth sharing.

Operation Smile

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*Donation of up to $1 million (U.S.), payable by March 3, 2018. Restrictions apply. See details at Invisalign.com.