



# Message from the President

by Patrick B. Ford

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A recently reemphasized paradigm of business is that *time* is one of the most important factors to be considered by an organization. To use time efficiently, we need to choose and implement those products, processes and practices which are effective within the time we can provide, while maintaining the highest standards of service. The articles in this issue of *Orthodontic Perspectives* address this topic, and offer insight into methodology and products that can help you be successful in your practice.

I am pleased to introduce two new members of The Leadership Committee (TLC) of 3M Unitek who will have an important role in how we serve you in the years ahead. Ajay Myer is appointed Senior Laboratory Manager in charge of Research and Development, and Norm Clason is now Manufacturing Operations Manager. Both have long histories with 3M, and I'm sure you will be hearing about their activities in future issues of this magazine.

Following is an article by Mike Lane, TLC member and Manager, 3M Unitek Global Marketing Operations, who offers a view of the increasingly important role of marketing in today's orthodontic practice.

## Marketing: Planning for Success

By Michael Lane; Manager, 3M Unitek Global Marketing Operations



What exactly is marketing and how can it help me achieve my business and professional goals?

This is a common question that is often asked of marketers. Its answer is growing in importance as our world becomes "smaller" and much more competitive.

Marketing may be one of the most misunderstood of the classic business principles. And for good reason. Webster's defines marketing rather narrowly as "the act or process of selling or purchasing in a market". It is much more than that. I prefer Jay

Conrad Levinson's definition from his book *Guerrilla Marketing*. He says, "Marketing is everything you do to promote your business, from the moment you conceive of it to the point at which customers buy your product or service and begin to patronize your business on a regular basis". It's the name on the building. It's where your office is located. It's how you answer the phone. It's what your waiting room looks like. It's how you reach your customers? It's the quality of the services you provide. It's how you conduct your consultations. It's who you are.

Like most things, it starts with a vision of what you want to be. If you have not already done so, create a vision for your practice. Communicate it and share it with your organization. Share it with your patients.

The next step is to put a marketing plan together to realize that vision. Write it down. Include both internal and external strategies for separating yourself from the "competition". Differentiate wherever possible. Create an identity for your practice.

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Have your patients  
visit our web site at  
[www.3MUnitek.com](http://www.3MUnitek.com)

# • Sondhi™ Signature Treatment System *Doing the Right Things Right*

by Anoop Sondhi, D.D.S., M.S.



*Dr. Anoop Sondhi received his dental degree from the Indiana University School of Dentistry, and his post-graduate certificate and M.S. in Orthodontics from the University of Illinois in 1977. Following his graduation, he was on the graduate faculty of the Department of Orthodontics at Indiana University. Since 1988, he has been in full-time private practice in Indianapolis, and continues as a Visiting Professor for several graduate programs in orthodontics.*

*Dr. Sondhi has used indirect bonding for the past 20 years, and has presented seminars and continuing education courses to several dental and orthodontic organizations in the United States and Canada. He has also lectured in Europe, Africa, Asia, and Latin America. In addition to his orthodontic practice, Dr. Sondhi devotes a significant amount of his clinical work to the diagnosis and management of patients with disorders of the temporomandibular articulation. Dr. Sondhi also serves as a consultant to the American Journal of Orthodontics and Dentofacial Orthopedics.*

**System:** *An ordered and comprehensive assemblage of facts, principles, and doctrines in a particular field of knowledge or thought.*

– Webster's Encyclopedic Dictionary

## I. The Concept

We can all remember the old story about five blind men trying to describe an elephant. The guy with his arms around the elephant's legs was confident that the animal was shaped like a tree trunk. The one with his hands on the tail was convinced that it was shaped like a rope, and the one with his hands on the trunk thought that the animal resembled a python, and so on. It was not until they put their assorted observations together that they got an understanding of the complete animal. In studying the structure of an orthodontic practice, we sometimes observe a similar phenomenon. Doctors who have been extremely successful at developing a large referral base find themselves overwhelmed in trying to deliver treatment for these patients because their clinical systems have not been properly organized. Conversely, we hear from doctors who have well organized clinical delivery systems, but are unable to develop the management structure necessary to expand their practice and referral base.

Although most orthodontists possess the ability to master these concepts individually, many struggle to conquer them all. This has been historically due to the lack of a comprehensive plan, which would allow orthodontists to systematically approach the development of a successful practice. With recent advances in technology, we now have the necessary armamentarium to adopt a comprehensive system that enables orthodontists to effectively and efficiently develop a successful orthodontic practice. These concepts of efficiency and effectiveness were integral components in the development of our treatment system. Although these two terms are used quite frequently, and sometimes interchangeably, we chose to focus on the synergy that is unleashed when the two are combined. The reason is simple. To be effective, we must *do the right things*. And to be efficient, we must *do things the right way*. By developing a

successful practice through a system involving effectiveness and efficiency, we *do the right things right!*

## II. The Principles

### A. A Strong Referral Base

We all recognize that there are several methods of developing a referral base for our practices. These methods will vary, depending on the geographic location of the practice, the individual personalities and preferences of the practitioners, and a number of social, cultural, and economic factors. No single system is going to apply to everyone. However, certain central themes can be studied, and modified for application to individual circumstances.

The management challenges faced by the orthodontist encompass the processes required to encourage patients to come to our office, and staff and patient management systems that allow us to deliver our treatment without exposing ourselves to undue amounts of stress or frustration. A comprehensive discussion of such management information would require many articles, and chapters in textbooks, but I would like to tantalize you with a simple question. Given that the family dentist is still the primary advisor to our patients, and therefore the gatekeeper that directs patients towards the need for orthodontic treatment, has anyone ever actually surveyed general dentists to find out what prompts a referral to a specific orthodontist? Well, we did. And, instead of an arbitrary and subjective management structure, we have chosen to take direction from the family dentist in structuring our referral mechanism. Put simply, we asked them what they wanted, and made the process more objective, and less capricious.

## B. Effective and Efficient Consultations

In order for us to use our time effectively, and for the patients and their parents to appreciate the value of the consultation, I believe it is necessary that the process be structured, organized, and extremely focused. Most orthodontists would agree that patient compliance plays a significant role in the effectiveness of orthodontic treatment. Our treatment mechanics are significantly more effective and efficient, and the overall stress level in an orthodontic practice considerably diminished, if a high level of patient compliance is obtained. It is our belief that this process begins at the consultation, and we have tried to develop a consultation process that we believe enhances patient compliance.

The process begins when the patient calls the office. This sets in place a specific series of events that are designed to inform the patient, allowing them to understand the amount of effort that goes into a clinical evaluation, and leaving no doubt in their minds that they will be well cared for in our office. To complement the implementation of our Signature System, instructional videos for orthodontic consultations, and for temporomandibular disorder consultations, have been prepared. These videos have not only proved to be of interest to orthodontists, but have also proved to be excellent for staff training purposes.

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## C. The Essence of Efficiency

It is our opinion that the efficient biomechanical delivery of orthodontic treatment can be studied under four different categories. They are:

1. *Orthodontic Prescription Design*
2. *Orthodontic Appliance Design*
3. *Reliable and Consistent Bracket Placement*
4. *Appointment Intervals and Scheduling*

### 1. Orthodontic Prescription Design

There are many pre-torqued and pre-angulated appliance systems available to the orthodontic practitioner today, and these prescriptions are based on a foundation of clinical principles, as well as the personal and philosophical preferences of the individual clinician. However, objective documentation on the efficacy of these various prescriptions has been lacking in the literature, and most of the evidence presented appears to be anecdotal. Further, a clinician wishing to test a specific prescription is faced with the daunting task of having to treat a sample group of patients, over a minimum of 2-3 years, to develop an appreciation for the clinical details manifested by the prescription. This approach is, in our opinion, archaic and cumbersome.

Consider this: we routinely design supersonic aircraft and space-age vehicles, and develop them with CAD-CAM systems, without ever actually putting the first rivet in a piece of metal. If a supersonic wing can be designed, and expected to fly the first time with computer aided graphics, then it should certainly be possible to design braces utilizing the same principle! It was our goal, therefore, to construct a virtual dentition, progress to the development of a virtual occlusion, and then to test the efficacy of our appliance design on the virtual dentition prior to applying it on the patient. In addition, this gave us the ability to compare the effects of different torques, angulations, and prescriptions in a totally objective manner. Figure 1, for example, demonstrates precisely why a distal offset on a mandibular first molar tube may prove to be undesirable. Indeed, in treating my own patients, I have frequently found it necessary to convert the first molar tube, and to place an offset in the archwire to recover a proper contact point between the first and second molars (Figure 2). It became readily apparent, with this analysis, that a distal offset on the mandibular first molar was generally undesirable (Figure 3), and that a distal offset on the mandibular second molar would prove to be beneficial (Figure 4A and 4B). Hundreds of such details were studied, and it became readily apparent that the specific details of a prescription could be analyzed three-dimensionally, and a fairly accurate assessment of the expressed 1st, 2nd, and 3rd order movements could be established (Figure 5).

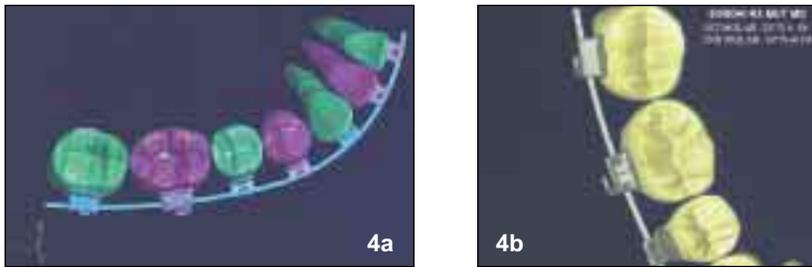
**Figure 1:** Occlusal view of mandibular arch, demonstrating undesirable effect of a distal offset in the first molar tube.

**Figure 2:** Occlusal view, demonstrating compensating bend in the archwire to overcome the effect of the distal offset on the first molar tube.

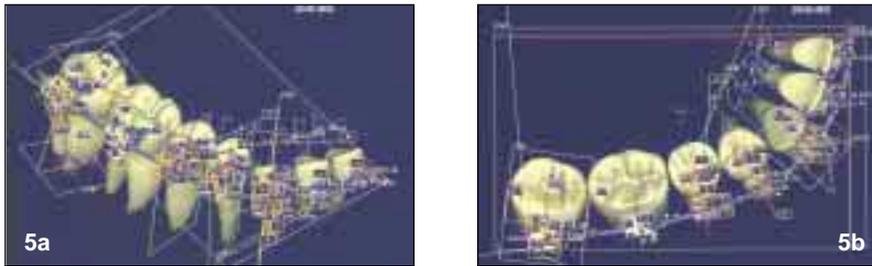
**Figure 3:** The undesirable effect of a distal offset on the mandibular first molar, analyzed through computer aided graphic design.



**Figure 4a & 4b:** The improved molar contact relationship with a distal offset of the second molar tube, and no offset on the first molar tube.



**Figure 5a & 5b:** Examples of some of the details that were studied with the computer aided graphic analysis of a virtual dentition.



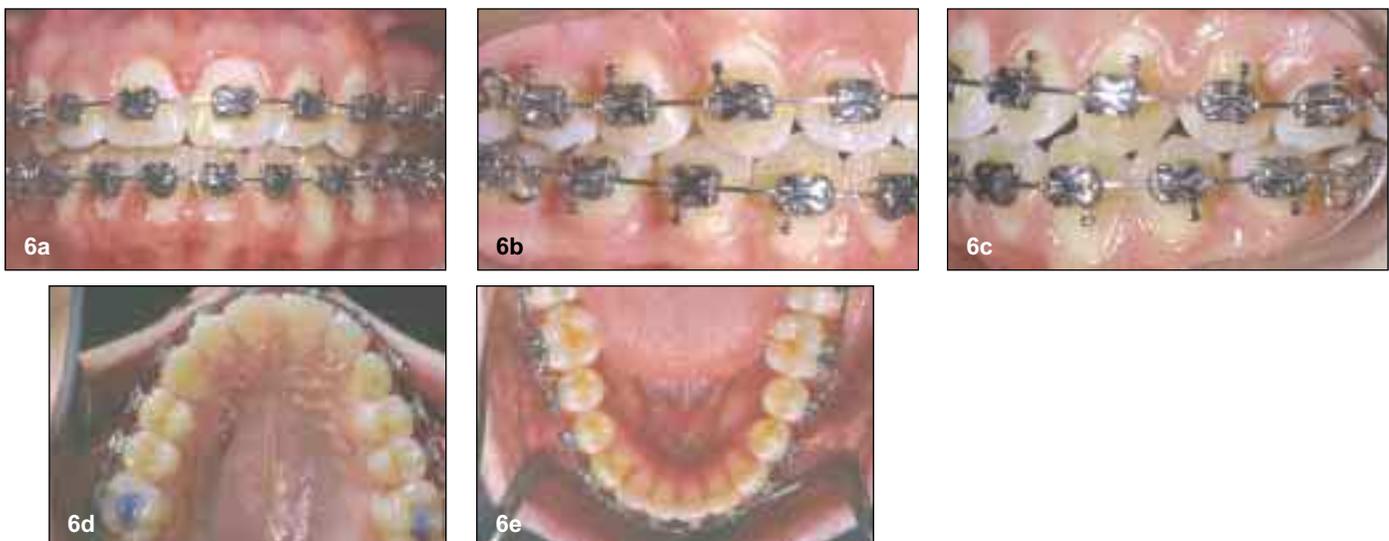
We all recognize that there is a considerable degree of variation in human and dental anatomy. Some tweaking and detailing is almost always necessary to obtain a refined treatment result. However, we have found that it is certainly possible to develop an orthodontic prescription that would deliver a consistent result in the overwhelming majority of patients. Figure 6 shows a patient with our prescription in place, with a completely straight rectangular archwire. Although it is evident that further details need to be completed, our intent here is to demonstrate the efficacy of the prescription in developing the appropriate 1st, 2nd, and 3rd order details. Figure 7 is a rendition of the aesthetic and functional result that this prescription is designed to achieve.

## 2. Orthodontic Appliance Design

In utilizing the three-dimensional graphic analysis made possible with computer aided design mechanisms, it is also possible to develop an accurate assessment of the differences between different types of brackets. This, in turn, allows a quantification of the degrees of efficiency and effectiveness. The importance of an increased inter-bracket distance has been discussed for years, as has the difference in rotation control between single and twin brackets. While there is little doubt that a winged bracket can combine some of the advantages of the rotation control and inter-bracket distance, we do encounter problems with archwire “binding”, and difficulty in plaque

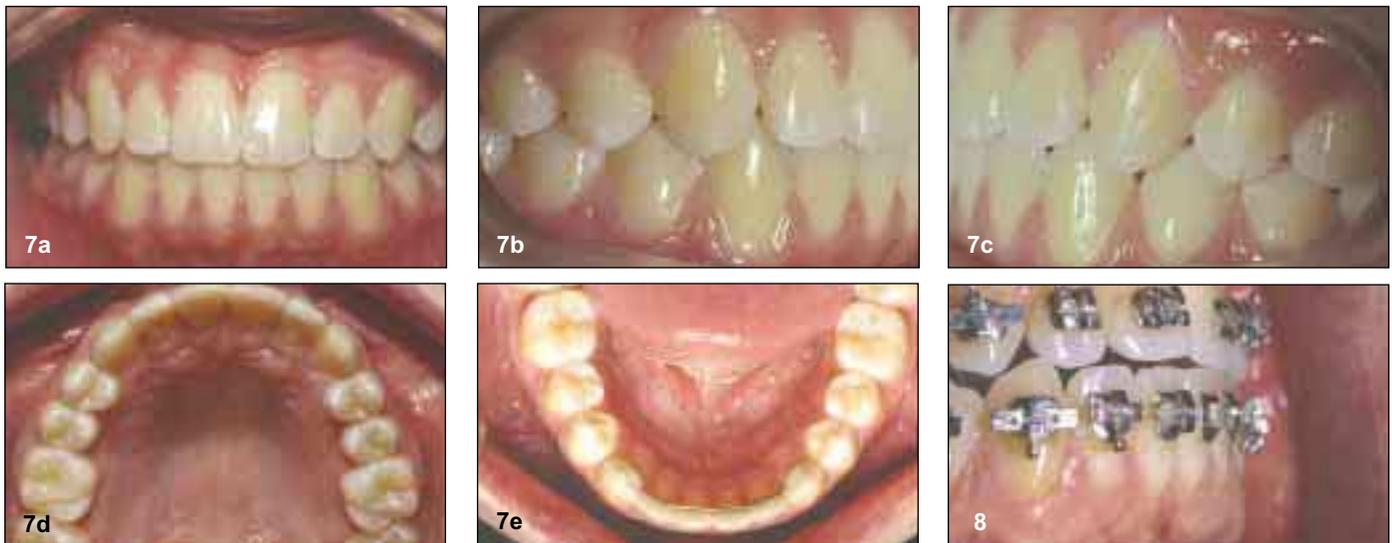
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**Figure 6a – 6e:** Intra-oral views of a patient with our prescription in place. It is evident that this case is not yet completely treated, but the photographs demonstrate the degree of finishing details achieved with completely straight finishing archwires.



**Figure 7a – 7e:** An example of the finishing details built into our current prescription. The details of the aesthetic and functional result can be readily appreciated. The enamel hypoplasia on teeth #7 and #9 will be restored.

**Figure 8:** Example of plaque accumulation around winged brackets. Note the area below the distal wing of the #26 bracket. This patient practiced good oral hygiene, but the excessive number of undercuts around the wings makes hygiene more challenging.



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control. It has been my experience that even the most fastidious patients will experience some difficulty in keeping winged brackets clean (Figure 8). Further analysis revealed that the Mini Uni-Twin™ bracket design, first proposed and designed by Dr. Thomas Creekmore, easily combined the rotational control of a twin bracket, with an increase in inter-bracket distance, but without the disadvantages of archwire “binding” and plaque retention due to the design of conventional winged brackets.

### 3. Reliable and Consistent Bracket Placement

It has been widely recognized for many years that accurate bracket positioning is of critical importance in the efficient application of biomechanics and in realizing the full potential of pre-adjusted edgewise appliances. The accurate placement of brackets is greatly enhanced with indirect bonding, especially on posterior teeth.

Indirect bonding, in various forms, has been around for many years. However, many practitioners have been dissatisfied with the concept of indirect bonding, because existing techniques have been relatively inconsistent and cumbersome, and have failed to provide the savings in doctor and chair time that indirect bonding should provide. This is mostly due to the fact that indirect bonding has hitherto been done with resins that were originally designed for direct bonding. Also, no organized and cohesive system for indirect bonding was ever developed, and clinicians developed their own variations on this technique.

Having recognized this, we have developed, from the ground up, a comprehensive indirect bonding technique. It addresses the deficiencies of previous techniques, and is presented as a

complete system. A new resin, designed specifically for indirect bonding, has been developed, and the results have proved to be excellent (Figures 9, 10 and 11).

### 4. Appointment Intervals and Scheduling

With accurate placement of brackets, the use of efficient bracket design, and a well constructed prescription, it should be possible to enhance the efficiency of treatment with appropriate spacing between appointments. It is almost impossible to over-emphasize the importance of this for our patients. In an overwhelming number of the families who bring their children to us for orthodontic treatment, both parents work. For each appointment, therefore, one parent has to leave their place of work, pick their child up from school, bring them to us for the appointment, wait while we perform the clinical procedures, return the child to the school, and return to their place of work. Depending on the geography and local circumstances, they could easily lose approximately half their working day. If the number of times that they have to do this can be minimized, it is our opinion that this is a terrific service for our patients.

Before I go any further with this discussion, let's get one thing straight. *There is no compromising with excellence.* The treatment result should always be the best that we can possibly deliver. However, if I can deliver the same degree of excellence in a total of 10-12 appointments, and another practitioner delivers an equivalent result by seeing the patient for 20-22 appointments, then I would submit that I have served the patient better. So, our overhead costs are decreased, and convenience to the patients is increased – talk about a win-win situation!

**Figure 9:** Anterior view with indirect bonding trays in place.



**Figure 10a – 10e:** Intra-oral views of indirect bonded appliance placement. The greater precision in bracket placement can be easily appreciated.



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**Figure 11a – 11f:** Intra-oral views with initial archwire inserted. Please note that control of second molar position is achieved early in treatment, requiring substantially fewer subsequent archwire changes.



The following analysis is an excellent demonstration of the importance of efficiency in biomechanics and appointment sequencing.

### **Total treatment time = 20 months**

- 1st appt. – Seps. or Bonding Imps.\*
- 2nd appt. – Bonding and/or Banding\*
- Last appt. – Debanding and Retainers\*

### **Bonding Appointment**

*Direct* – Doctor Time – 20-30 mins.

*Indirect* – Doctor Time – 3-5 mins.

### **If the patient is seen every**

- 4 weeks – Total appointments = 20
- 6 weeks – Total appointments = 14-15
- 8 weeks – Total appointments = 10-11
- 10 weeks – Total appointments = 8
- 12 weeks – Total appointments = 6-7

The maximum efficiency appears to be achieved when patients are seen at 8-10 week intervals, since we must strike a balance between the appointment intervals, and the need to stay in control of the treatment.

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### **Cost Per Appointment**

Assuming a hypothetical treatment fee of \$4,000, and a fixed cost of \$1,000 per bonding and debonding, the fee generated per appointment would be...

- 4 week intervals – \$150 per appointment
- 6 week intervals – \$200 per appointment
- 8 week intervals – \$300 per appointment
- 10 week intervals – \$375 per appointment

Once we realize the cost per appointment, the importance of minimizing bracket repositioning appointments becomes clearer. The rules should be simple: Schedule as few appointments as possible, and do everything possible at each appointment. One of the concerns I sometimes hear from our colleagues is that patients who are seen at 8, 10 or 12 week intervals may not pay their treatment fees on schedule. Indeed, I frequently have colleagues tell us that their patients are in the habit of making their payments during their monthly visits to the office. There is absolutely no question that it is not only possible, but necessary, to dissociate a monthly fee payment schedule with the actual office visits for archwire changes, adjustments, etc. This is where the support mechanisms for our Signature Series treatment system come into play. Appropriate management materials, forms, patient education materials, and presentation scripts to facilitate the implementation of these concepts have been prepared, and are presented as an integral part of the overall system.

### **Conclusion**

In every facet of orthodontic treatment and practice management, there are a number of choices available to the orthodontic practitioner. There are different schools of thought on practice management, office and staff management, and the choice of biomechanical treatment strategies. Over the past 20 years, we have worked to evolve and refine a comprehensive system, one that allows the efficient delivery of an orthodontic treatment result with a minimum level of inconvenience and discomfort for the patient, the orthodontist, and the orthodontic staff. The seminars on this system will emphasize efficiency in appliance design and placement, and management systems designed to deliver excellence in the treatment result. ■

*\*These are constant for every patient*

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## **Marketing: Planning for Success** *continued from page 2*

Make sure it is consistent with your vision, and then communicate it. Develop strategies that will bring more patients to your office, but more importantly, develop strategies that will make them want to come back and tell their friends (and neighbors, and relatives, and co-workers...).

Plan efficiency into your practice to more easily facilitate growth and patient satisfaction.

Yes, placing an ad in the local Yellow Pages® is marketing. But it is only a very small part. To realize your vision, you will need to do much more.

We can help. Contact your local 3M Unitek sales professional for information on seminars, materials, and professional services that can help you develop a blueprint for marketing success. ■

# AlastiK™ Easy-To-Tie Ligature Development

by Susan Tzou



Susan Tzou is Product Development Specialist at 3M Unitek Research and Development. She joined 3M Unitek in 1999 after working at 3M Pharmaceuticals for seven years. She received her Ph.D. in Chemical Engineering from State University of New York at Buffalo in 1989.

## AlastiK™ Easy-To-Tie Ligature Design

The concept of the AlastiK™ Easy-To-Tie Ligature originated from Dr. Lee Logan.<sup>1</sup> His idea was to have a bend in the ligature for easy ligation (Figure 1). With the bend in the ligature, the mosquito forceps can approach the first tie-wing of the bracket at an angle where the forceps do not interfere with patient's lips (Figure 2), so it is easier to hook up the first tie-wing. After hooking up the first-tie wing, it is also easier to continue to hook up the remaining tie-wings without continually holding the ligature to the first tie-wing with the other hand.

The AlastiK Easy-To-Tie Ligature has a bend angle large enough to differ from conventional ligature, but not so large that it folds upon itself. Using ligature models with various bend angles, we have determined that a 45° bend is optimum (Figure 1).

In addition to the bend, the new features of the AlastiK Easy-To-Tie Ligature include a larger inner diameter (ID) and a flat inner cross section. Unlike conventional ligatures with a round cross section, the flat inner cross section of the AlastiK Easy-to-Tie Ligature is D-shaped (Figure 3). A flat inner cross section distributes stress over the entire inner surface, resulting in reduced stress concentration at the inner walls. A larger ID makes it easier to ligate.



Figure 1: AlastiK™ Easy-To-Tie Ligature

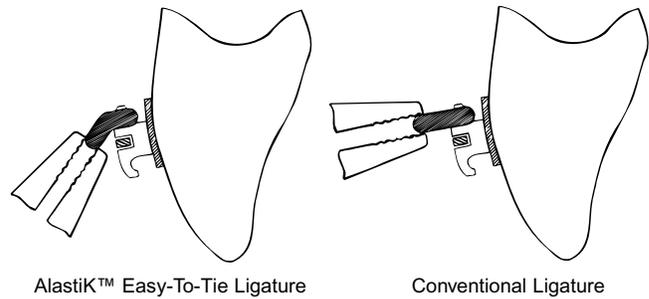


Figure 2: Mosquito forceps approaching brackets at different angles while installing AlastiK™ Easy-To-Tie Ligature and conventional ligature.

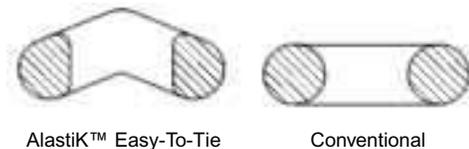


Figure 3: Cross sections of AlastiK™ Easy-To-Tie Ligature and conventional ligature.

## Stick

AlastiK Easy-To-Tie Ligatures are available in patient-specific sticks of 10 ligatures (Figure 4). The choice of stick is based on interviews with orthodontic staff. The small number of ligatures on each stick allows single patient use without the need to cut the stick to small sections or sterilize unused portions of a large stick. The 3M Unitek logo orients the user to the top of the stick. When the logo is facing up, the user can easily remove and install the ligatures because the angle is presented in the correct orientation to the bracket (see Figure 2).

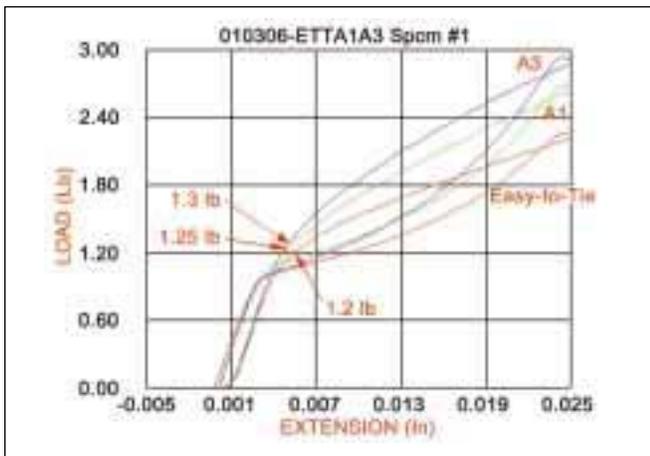
Figure 4: AlastiK™ Easy-To-Tie Ligature stick.



## Mechanical Tests

Introducing an angle in the ligature had little effect upon the force provided by the ligature in holding the archwire in place. This was confirmed by an archwire retention force test, where the force required to pull the archwire away from the slot was recorded as a function of displacement. Figure 5 shows the test assembly of the wire, bracket and ligature. Stainless steel archwire 0.017" x 0.025" was pulled away from the bracket slot at 0.50 in/min to a maximum displacement of 0.025" (loading) and allowed to return to its original position inside the bracket slot (unloading). Victory Series™ Standard Edgewise Miniature Metal Bracket (0.018" slot, 0° torque, 0° angulation, central twin) was used. AlastiK Easy-To-Tie, A1 and A3 ligatures were tested, and results are in Figure 6.

**Figure 5:**  
Archwire  
Retention Force  
Test Assembly.

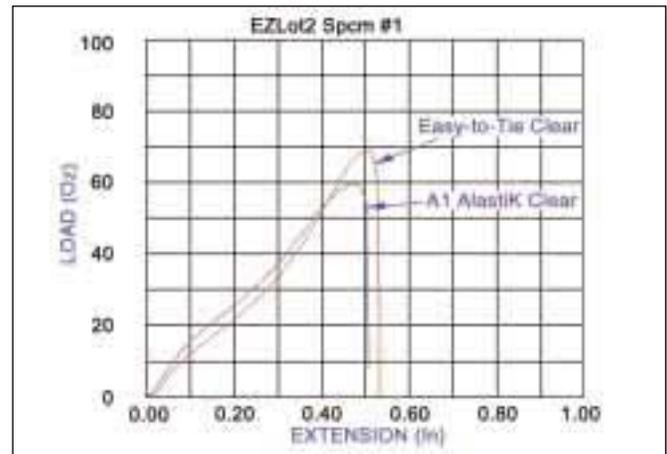


**Figure 6:** Archwire Retention Force of AlastiK™ Easy-To-Tie, A1 and A3 ligatures.

For each type of ligature, five samples were tested. The loading curve (top curve) starts near the origin and rises steeply within a short distance (~ 0.005"). During this initial steep rise, the force of the Instron™ testing machine has to overcome the force initially provided by the ligature. After this initial steep rise, the slope begins to decrease, which is indicated by the arrows in Figure 6. The archwire retention force is determined right at this point of the loading curve where the initial steep slope begins to decrease. After this point, the archwire starts to unseat from the slot, and the ligature starts to further stretch until the wire travels

0.025" away from of the slot bottom. The AlastiK Easy-To-Tie Ligature, A1 and A3 had similar archwire retention forces of 1.2-1.3 pounds. The archwire retention force was not affected by the angle in the ligature. The bend on the AlastiK Easy-To-Tie Ligature facilitates the initial installation around bracket tie-wings. As one stretches the AlastiK Easy-To-Tie Ligature to hook up all tie-wings, the bend flattens, and the ligature, conforming to the contour of the wire/bracket, holds the wire in the bracket slot.

AlastiK Easy-To-Tie Ligatures were compared to AlastiK A1 ligatures in a force-extension test, where ligatures were pulled at a constant rate to breakage. Ten ligatures of each type were tested. Figure 7 shows that force-extension curves of AlastiK Easy-To-Tie Ligatures are similar to those of A-1 ligatures.



**Figure 7:** Force-extension characteristics of AlastiK™ Easy-To-Tie Ligature and A1 ligature.

## New Colors

A survey was conducted to determine color preference and resulted in the addition of eight new colors. We added vibrant colors (Radical Red, Screaming Pink, Plum Crazy, Orange Blast, Extreme Green, Mediterranean Blue) and glow-in-the dark (Midnight Glow). We also added a color (Obscure) that matched our Clarity™ Aesthetic Brackets. A total of 24 colors and clear are available. Fade resistance has been shown in artificial saliva, 8% alcohol, cotton seed oil and carbonated citrated soda for a minimum of 1 month. The same selection of colors is also available for AlastiK Chains to match AlastiK Easy-To-Tie Ligatures.

Tying ligatures is one of the most frequent procedures performed in the orthodontic office. AlastiK Easy-To-Tie Ligatures make the procedure even more time efficient while offering patients the color selection they demand. ■

## REFERENCES

1. "Curved Elastomeric Orthodontic Ligature", US patent application, 2000.  
Lee R. Logan, D.D.S., M.S. is in the private practice of Orthodontics at 18250 Roscoe Blvd., Northridge, California 91325.

# • The Art of Scheduling

by Terry A. Sellke, D.D.S., M.S.



*Dr. Sellke has been teaching Practice Management, Ethical Marketing of the Orthodontic Office, and Bioprogressive Diagnosis and Treatment for 25+ years at the University of Illinois at Chicago. He has given programs on these subjects to audiences on 5 continents. He has a large private practice (along with his partner Donald J. Reily, D.D.S., M.S.) in Lake County, IL and is the director of "THE BOTTOM LINE": Successful Strategies for Private Practice Orthodontics".*

## Picture the Ideal Practice...

Every moment of every day you run on time. There is no stress. You are working at maximum productivity and as a result, maximum profitability. Your office hours are minimized, leaving you time for family and other pursuits. You, your staff, and your patients have FUN! Your practice is experiencing healthy growth year after year.

12 Would the above describe the practice of your dreams? If it is anything close to the practice of your dreams, this article was written for you!

Nothing that you do or can do in orthodontics will have as profound an effect on you or your practice as scheduling.

Scheduling is indeed an art as well as a science. How well you schedule will affect all of the areas aforementioned either positively or negatively. It is the key to achieving your vision for your practice and your life.

With this as an opener, let's discuss my concept of scheduling.

I first learned about scheduling some 25 years ago from Dr. Jay Barnett. He taught me three elements that I still employ in designing the ultimate schedule. They are:

- 1). *Schedule by Chair*
- 2). *"Like" Appointments Together*
- 3). *Dovetailing*

### 1). *Schedule by Chair:*

"Schedule by chair" indicates that you assign patients to a specific chair in your scheduling template. It becomes the responsibility of your clinical associate to make that chair "run on time" all day long. It fosters accountability and empowerment within your staff.

To be successful in scheduling by chair, you must have the systems in place. You must also have adequate staff training to ensure that an empowered staff is capable of performing the duties assigned within the time frame required while attaining the quality demanded.

Scheduling by chair also requires that you identify the chair time required to accomplish every procedure performed treating patients in your practice. You must not only know the kinds of appointments and the chair time needed for each, you must also know how many of each of these kinds of appointments you will need to see all the active patients in your practice. Furthermore, you must have the systems in place and the trained staff to ensure that the time allotted for each appointment can be faithfully kept on time. You must always have the current number of clinical associates each day in the office to handle all "chairs" scheduled. Put simply, a lot of homework must be done before implementing the "schedule by chair" concept.

### 2). *"Like" Appointments Together:*

"Like" appointments together is the concept of dogmatically enforcing that short appointments are never mixed with longer appointments. You may ask why this is important. The answer is that this is the key to **RUNNING ON TIME!**

The number one complaint of consumers about professional offices is that they never run on time. The offices that respect the PATIENT's time have been shown time and again to be the more successful, least stressful offices. If you want a thriving practice that is fun for you and your staff to go to day in and day out, run on time every moment of every day.

When I lecture on the subject of scheduling I ask the audience what their definition of "on time" is. Did "on time" mean the patient was in the chair:

- Within 10 minutes of their scheduled appointment?
- Within 5 minutes of their scheduled appointment?
- Exactly at the scheduled time?

How you answer this question says a lot about your attention to the details of exceeding the expectations of your patients and as a result, your ability to develop patient referrals (an important key to next week's exam and next month's profits).

My definition of "on time" performance is unrelated to the time a patient is SEATED. It is related to when they are LEAVING the chair. In the consumer's mind "on time" has more to do with getting out of the office in time to make their next appointment or to arrive at work/school on time than when the patient is brought from the reception area to the operatory.

**By scheduling only longer appointments during school hours you are able to schedule many more patients during the popular after school hours!**

How does this relate to Jay Barnett's concept of "like" appointments together? When mixing long appointments with short ones it is impossible to get the short appointment patient out of the chair on time! The doctor is tied up with a LONG appointment causing the SHORT appointment to wait. Bad news on creating what Ken Blanchard calls "Raving Fans"! Only by scheduling "like" appointments together can EVERY patient arrive in the chair on time as well as leave the chair on time.

### 3). Dovetailing:

The third concept I learned from Jay is called "dovetailing". This involves identifying for each procedure not only how many minutes of CHAIR time are required to accomplish the task, but also how many minutes of DOCTOR time are needed. Additionally, it is imperative to determine WHEN in each appointment type the doctor will be needed. For example, during a banding appointment the doctor may be needed in the first minutes to fit and cement the bands. Conversely, in a bonding appointment of equal length (minutes of chair time) the doctor may be needed in the middle or towards the end of the appointment to place brackets on teeth previously prepared by the clinical associate.

Dovetailing is the art of having the doctor available at each chair at precisely the right time for precisely the correct number of minutes to perform his/her tasks. Any mix-up that leads to lack of timely doctor availability will inevitably lead to a delay in the procedure performed and a patient dismissed later than the designated time.

These concepts that I learned from Jay Barnett were too powerful for me to grasp in my early years in practice. It was only after my practice had grown to a size that became unmanageable with "fly by the seat of your pants" scheduling that I revisited Jay's methods and truly learned how to effectively schedule. This was many years later.

I shudder at:

- 1). How many patients that I lost as a result of not consistently running on time.
- 2). The staff turnover that I could have prevented had we eliminated the stress that comes with a reception room full of patients and parents caused by poor scheduling techniques.

To illustrate these three concepts I ask you to refer to Figure 1 shown here. It is our office's Monday scheduling template.

TIME	CHAIR 1	CHAIR 2	CHAIR 3	CHAIR 4	CHAIR 5	CHAIR 6
8:00 AM	RET	XX	XX	XX	XX	XX
8:15 AM	//	RET	XX	XX	XX	XX
8:30 AM	//	//	RET	XX	XX	XX
8:45 AM	//	//	//	XX	XX	XX
9:00 AM	XX	//	//	XX	XX	XX
9:15 AM	RET	XX	//	XX	XX	XX
9:30 AM	//	RET	XX	XX	XX	XX
9:45 AM	//	//	RET	XX	XX	XX
10:00 AM	//	//	//	XX	XX	XX
10:15 AM	XX	//	//	XX	XX	XX
10:30 AM	RET	XX	//	XX	XX	XX
10:45 AM	//	RET	XX	XX	XX	XX
11:00 AM	//	//	RET	XX	XX	XX
11:15 AM	//	//	//	XX	XX	XX
11:30 AM	XX	//	//	XX	XX	XX
11:45 AM	XX	XX	//	XX	XX	XX
12:00 PM	XX	XX	XX	XX	XX	XX
12:15 PM	XX	XX	XX	XX	XX	XX
12:30 PM	XX	XX	XX	XX	XX	XX
12:45 PM	EXL	XX	XX	XX	XX	XX
1:00 PM	//	BDL	XX	XX	XX	XX
1:15 PM	//	//	XX	XX	XX	XX
1:30 PM	BDL	//	DBS	DBL	XX	XX
1:45 PM	//	DBL	//	//	XX	XX
2:00 PM	//	//	DBS	//	XX	XX
2:15 PM	BDL	//	//	DBL	XX	XX
2:30 PM	//	DBS	DBS	//	XX	XX
2:45 PM	//	//	//	//	XX	XX
3:00 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:15 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:30 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:45 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
4:00 PM	QC	QC	QC	QC	QC	SVQC
4:15 PM	QC	QC	QC	QC	QC	SVQC
4:30 PM	QC	QC	QC	QC	QC	SVQC
4:45 PM	QCPH	QCPH	QCPH	XX	XX	XX
5:00 PM	EXL	XX	XX	XX	XX	XX
5:15 PM	//	XX	XX	XX	XX	XX
5:30 PM	//	EXL	XX	XX	XX	XX
5:45 PM	XX	//	XX	XX	XX	XX
6:00 PM	EXL	//	XX	XX	XX	XX
6:15 PM	//	XX	XX	XX	XX	XX
6:30 PM	//	XX	XX	XX	XX	XX

Figure 1: Dr. Sellke's scheduling template for Monday.

You will notice that Monday mornings are devoted to retentions. No short appointments are allowed as retentions in our office are doctor time intensive. The doctor evaluates the occlusion and facial results with an eye toward ensuring that all of our treatment objectives have been attained. We have a "retain checklist" that must be honestly filled out by the doctor before the appointment is to proceed. Next the doctor removes all of the appliances, cavitrons the teeth, and polishes all adhesive with finishing burrs. Next our staff takes all necessary retention records. At the end of the appointment the doctor attends a retention conference with the patient and parent where we review our treatment objectives, our success in achieving them, what retainers will be given, and what our plans and instructions are for the future.

No other appointment in our office requires doctor time to be "dovetailed" into the chair time at two different moments during

the appointment. This is why retention appointments are the most difficult for us to schedule. (Imagine the chaos that would be created if we were to schedule other kinds of appointments during retention, i.e. not adhering to the “like” appointments together concept!).

Observe that we schedule a new retain to begin every 15 minutes. Also observe that retain appointments require 45 minutes of chair time and 15 minutes of doctor time in the very beginning of the 45 minute appointment. As I finish working on the patient in Chair 1, I am ready to begin on the patient in Chair 2. Fifteen minutes later I am working on the patient assigned to Chair 3. When I finish with the patient in Chair 3, I am available for the retention conference on the patient in Chair 1. You can now visualize the “flow” of patients in the morning that comes from adhering to the concepts of schedule by chair, “like” appointments together, and dovetailing. We are able to constantly run on time while maximizing doctor and chair efficiency yet practice within our state dental practice act. Doctors able to assign activities (that the doctor does in our practice) to qualified staff can further refine our retention template, retain more patients/hour, and thus increase their office efficiency and profitability. The concepts, however, remain the same.

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Now look at the afternoon schedule. It shows us beginning with an exam appointment followed by a series of banding (BDS, BDM, BDL) and bonding appointments (DBS, DBM, DBL). Following the banding and bonding appointments are adjustment appointments (ADJ). Next you will see “QC” appointments, which were paraphrased by Jim Hilgers as “quickcheck” appointments. Also shown are time slots for special visit/QC appointments (SVQC). We finish the day with exams (EXL).

**With these templates we can start 600 new patients/year while seeing 65 to 75 patients/day and working (on average) 18 days per month.**

In viewing the afternoon we have adhered to Jay Barnett’s three key scheduling principles. We have developed chair and doctor time for every procedure. We have grouped them by procedure, by doctor, and chair time required to do the procedure. Thus for banding appointments there are short bandings (BDS), medium length bandings (BDM), and long bandings (BDL). Bondings are, similarly, short (DBS), medium (DBM), or long (DBL).

Adjustment appointments (ADJ) require no more than ten minutes of chair time and 2 – 3 minutes of doctor time. In our office adjustment appointments involve archwire changes, shorter appointments with a panorex or needed parent conference, or several shorter (QC) activities grouped together into one appointment.

Quickcheck appointments (QC) allow no more than 7 minutes of chair time and less than two minutes of doctor time. If you look at the scope of your potential appointment types, many of them will fall into the classification of QC. Such things as check headgear, check facemask, check oral hygiene, check functional appliance, observe eruption, check elastics, activate a wire, are just a few examples of what could be QC appointments. As you study your “mix” of appointment types you will identify your own list.

SVQC appointments are set aside to deal with office “emergencies” or exceedingly short QC appointments.

In response to demand for ADJ, QC, SVQC, or even BD or DB appointments, we simply add a row of needed appointments to our templates. This expands the “active patient” appointments as necessary.

All appointments are arranged to maximize doctor and staff utilization while routinely running on time. It makes no sense to schedule more time than needed to perform any office procedure if you are to maximize your productivity, through this your profitability, and as a result, the hours and days you will need to work to see all of your patients.

Color-coding of appointments makes visualization of available time for each appointment type easier to correctly schedule. It also enhances the effectiveness of computerized appointment scheduling. Fewer errors, greater scheduling speed, and increased productivity all play a part in color-coding decisions.

Now take a look at the afternoon schedule from another perspective, see Figure 1B. Note the time that ADJ and QC appointments are seen. They are all after school! By scheduling only longer appointments during school hours you are able to schedule many more patients during the popular after school hours! This is an incredible practice builder! The orthodontist best able to accommodate the most appointments for patients at the times that they want will win the lion’s share of the patients!

TIME	CHAIR 1	CHAIR 2	CHAIR 3	CHAIR 4	CHAIR 5	CHAIR 6
12:00 PM	XX	XX	XX	XX	XX	XX
12:15 PM	XX	XX	XX	XX	XX	XX
12:30 PM	XX	XX	XX	XX	XX	XX
12:45 PM	EXL	XX	XX	XX	XX	XX
1:00 PM	//	BDL	XX	XX	XX	XX
1:15 PM	//	//	XX	XX	XX	XX
1:30 PM	BDL	//	DBS	DBL	XX	XX
1:45 PM	//	DBL	//	//	XX	XX
2:00 PM	BDL	//	DBS	//	XX	XX
2:15 PM	BDL	//	//	DBL	XX	XX
2:30 PM	//	DBS	DBS	//	XX	XX
2:45 PM	//	//	//	//	XX	XX
3:00 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:15 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:30 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:45 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
4:00 PM	QC	QC	QC	QC	QC	SVQC
4:15 PM	QC	QC	QC	QC	QC	SVQC
4:30 PM	QC	QC	QC	QC	QC	SVQC
4:45 PM	QC	QC	QC	XX	XX	XX
5:00 PM	EXL	XX	XX	XX	XX	XX
5:15 PM	//	XX	XX	XX	XX	XX
5:30 PM	//	EXL	XX	XX	XX	XX
5:45 PM	XX	//	XX	XX	XX	XX
6:00 PM	EXL	//	XX	XX	XX	XX
6:15 PM	//	XX	XX	XX	XX	XX
6:30 PM	//	XX	XX	XX	XX	XX

**Figure 1B:** Dr. Sellke’s scheduling template for Monday.

Taking yet another look at the afternoon schedule brings out another reality of the effectiveness of my scheduling template. Essentially ALL of our active patients can be seen during a very short period of the day (on Mondays this is from 3 p.m. to 4:30 p.m. with perhaps a few BD & BD appointments added). The rest of the appointments in the Monday template are affected by events subject to seasonal and other trends.

This brings me to the fourth scheduling concept that I have added to Jay Barnett's. I call it "Squeeze the Day".

### Squeeze the Day:

Seasonal, local, and national events can materially affect the number of new patient exam calls that you receive. We all know that at certain times of year (like before and after Christmas) there are materially fewer exam calls. People are too wrapped up in the Holidays (and afterwards paying for them) to call for an orthodontic exam. "Mañana" prevails. Similarly, the summer months tend to be especially busy months for new patient exams as parents rush to get their child into braces before school begins.

National events (like a recession) will affect the numbers of exam phone calls and local events (like new or terminated orthodontic benefit plans) will as well. Even retains tend to show seasonal trends with peaks and valleys in demand for appointments.

So how can the orthodontist plan for and importantly schedule for these variable numbers of appointments? This is where the concept of "Squeeze the Day" comes into play! It gives you available time for these important appointments not next week or next month but today or tomorrow. Importantly, it also helps control an overhead cost that could and should rise and fall based upon demand – specifically staff salaries!

Each week our schedules offer a variety of appointment times. Refer to Figures 2, 3, and 4.

TIME	CHAIR 1	CHAIR 2	CHAIR 3	CHAIR 4	CHAIR 5	CHAIR 6
7:00 AM	QC	QC	QC	QC	QC	SVQC
7:15 AM	QC	QC	QC	QC	QC	SVQC
7:30 AM	QC	QC	QC	QC	QC	SVQC
7:45 AM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
8:00 AM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
8:15 AM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
8:30 AM	BDL	DBL	DBS	XX	XX	XX
8:45 AM	//	//	//	DBL	XX	XX
9:00 AM	//	//	DBS	//	XX	XX
9:15 AM	BDL	DBL	//	//	XX	XX
9:30 AM	//	//	DBL	DBS	XX	XX
9:45 AM	//	//	//	//	XX	XX
10:00 AM	BDL	DBS	//	DBL	XX	XX
10:15 AM	//	//	BDL	//	XX	XX
10:30 AM	//	DBS	//	//	XX	XX
10:45 AM	XX	//	//	DBS	XX	XX
11:00 AM	EXL	XX	XX	//	XX	XX
11:15 AM	//	XX	XX	XX	XX	XX
11:30 AM	//	EXL	XX	XX	XX	XX
11:45 AM	XX	//	XX	XX	XX	XX
12:00 PM	EXL	//	XX	XX	XX	XX
12:15 PM	//	XX	XX	XX	XX	XX
12:30 PM	//	EXL	XX	XX	XX	XX
12:45 PM	XX	//	XX	XX	XX	XX
1:00 PM	EXL	//	XX	XX	XX	XX
1:15 PM	//	XX	XX	XX	XX	XX
1:30 PM	//	EXL	XX	XX	XX	XX
1:45 PM	XX	//	XX	XX	XX	XX
2:00 PM	XX	//	XX	XX	XX	XX

Figure 2: Active patients are offered early morning hours.

TIME	CHAIR 1	CHAIR 2	CHAIR 3	CHAIR 4	CHAIR 5	CHAIR 6
1:00 PM	EXL	XX	XX	XX	XX	XX
1:15 PM	//	XX	XX	XX	XX	XX
1:30 PM	//	EXL	XX	XX	XX	XX
1:45 PM	XX	//	XX	XX	XX	XX
2:00 PM	BDL	//	DBL	XX	XX	XX
2:15 PM	//	DBL	//	XX	XX	XX
2:30 PM	//	//	//	DBS	XX	XX
2:45 PM	XX	//	DBS	//	XX	XX
3:00 PM	BDL	DBS	//	DBL	XX	XX
3:15 PM	//	//	DBL	//	XX	XX
3:30 PM	//	DBL	//	//	XX	XX
3:45 PM	DBS	//	//	DBS	XX	XX
4:00 PM	//	//	XX	//	XX	XX
4:15 PM	ADJ	ADJ	ADJ	ADJ	XX	XX
4:30 PM	ADJ	ADJ	ADJ	ADJ	XX	XX
4:45 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
5:00 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
5:15 PM	QC	QC	QC	QC	QC	SVQC
5:30 PM	QC	QC	QC	QC	QC	SVQC
5:45 PM	QC	QC	QC	QC	QC	SVQC
6:00 PM	QC	QC	QC	QC	QC	SVQC
6:15 PM	QCPH	QCPH	QCPH	XX	XX	XX
6:30 PM	EXL	XX	XX	XX	XX	XX
6:45 PM	//	XX	XX	XX	XX	XX
7:00 PM	//	EXL	XX	XX	XX	XX
7:15 PM	XX	//	XX	XX	XX	XX
7:30 PM	EXL	//	XX	XX	XX	XX
7:45 PM	//	XX	XX	XX	XX	XX
8:00 PM	//	XX	XX	XX	XX	XX

Figure 3: Active patients can choose after school hours. Exams are scheduled later.

TIME	CHAIR 1	CHAIR 2	CHAIR 3	CHAIR 4	CHAIR 5	CHAIR 6
11:00 AM	EXL	XX	XX	XX	XX	XX
11:15 AM	//	XX	XX	XX	XX	XX
11:30 AM	//	EXL	XX	XX	XX	XX
11:45 AM	XX	//	XX	XX	XX	XX
12:00 PM	EXL	//	XX	XX	XX	XX
12:15 PM	//	XX	XX	XX	XX	XX
12:30 PM	//	EXL	XX	XX	XX	XX
12:45 PM	XX	//	XX	XX	XX	XX
1:00 PM	EXL	//	XX	XX	XX	XX
1:15 PM	//	XX	XX	XX	XX	XX
1:30 PM	//	DBS	XX	XX	XX	XX
1:45 PM	BDL	//	XX	DBS	XX	XX
2:00 PM	//	DBS	DBL	//	XX	XX
2:15 PM	//	//	//	DBL	XX	XX
2:30 PM	BDL	DBL	//	//	XX	XX
2:45 PM	//	//	DBS	//	XX	XX
3:00 PM	//	//	//	DBS	XX	XX
3:15 PM	ADJ	ADJ	ADJ	ADJ	XX	XX
3:30 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
3:45 PM	ADJ	ADJ	ADJ	ADJ	SVQC	XX
4:00 PM	QC	QC	QC	QC	QC	SVQC
4:15 PM	QC	QC	QC	QC	QC	SVQC
4:30 PM	QC	QC	QC	QC	QC	SVQC
4:45 PM	QCPH	QCPH	QCPH	XX	XX	XX
5:00 PM	EXL	XX	XX	XX	XX	XX
5:15 PM	//	XX	XX	XX	XX	XX
5:30 PM	//	EXL	XX	XX	XX	XX
5:45 PM	XX	//	XX	XX	XX	XX
6:00 PM	XX	//	XX	XX	XX	XX

Figure 4: In the summer (when school is out) we convert 1 p.m. – 8 p.m. days to 11 a.m. – 6 p.m. days. This simultaneously accommodates staff and patient desires to have more free evening time. With these templates we can start 600 new patients/year while seeing 65 to 75 patients/day and working (on average) 18 days per month.

### **“Squeeze the Day” Key Concepts:**

- Availability of “key appointments” (exams, starts, retains) on the spot
- Begin at the middle of the day (when active patients are scheduled) and add key appointments toward the extremes as needed
- Days will be longer or shorter for doctors and part-time staff based upon the demand for key appointments
- Reduced patient hours in the absence of key appointments
- Office hours are not changed. Only staff numbers are.
- Reduced office overhead (staff salaries) with less key appointments
- Full-time staff (front desk, other key employees) keep the office open full time; part-time staff (clinical associates, lab, other) work only when needed
- Giving consumers hours they want:
  - After school hours for the vast majority of all active treatment appointments

- Evening or lunch time hours for new patient exams
- Immediate appointment availability for exams, starts, and retains
- By satisfying patient scheduling desires, more frequent and stronger patient referrals are achieved
- By creating happy mutual patients, more frequent and stronger dental referrals occur

Essential to effective cost control with my scheduling system is a staff of primarily part-time people. Staff must be prepared to work office days that vary not only day to day but also in terms of hours each day. This system offers the opportunity to dramatically adjust staffing overhead costs based upon peaks and valleys in key appointments, as well as attain the important goal of extra chairside staff “on call” to ensure full staffing in event of the inevitable vacations, pregnancy, jury duty, illness, staff turnover, etc. ■

## 16 • **APC™ II Adhesive Introduced**

3M Unitek has introduced APC™ II Adhesive Coated System – an advanced APC adhesive formulation that answer’s doctor requests for a slightly “softer” adhesive in the APC™ Adhesive Coated System.

According to the results of customer evaluation tests, APC II adds just enough additional “workability” to the current APC adhesive formulation to make it even easier to use – without giving up the benefits that APC adhesive users have come to know and expect.

The first products available with APC II adhesive are buccal tubes, with additional products to follow.

APC II adhesive coated products also feature a new delivery innovation. Inside the individual red blister, a new textured foam liner will reduce the chance of slippage and rotation of the tube in the well...making it easier for users to handle. ■

