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Message from the President

by Waldemar B. Szwajkowski



The theme for this issue of *Orthodontic Perspectives* is “Taking Control”. This concept is vital to our customers in so many ways, whether it is put in practice here at 3M Unitek, to develop and deliver the highest quality products, or in your office, where you need products that provide the control you need to treat each case.

You will read more about how we take control of the quality process in the following article by Jerry Horn, Quality Manager for 3M Unitek and member of our Management Operating Committee.

But “Taking Control” is also a title that has personal meaning to me, especially at this particular time. After 20 years of service with 3M Unitek, it is a pleasure to be back at our Headquarters in California and a great honor to have been chosen to lead such a focused, dedicated and successful team of professionals in this orthodontic industry. I intend to build on the strong foundations created during the last four years under Pat Ford’s leadership. With his decision to retire, on behalf of our whole organization and many of you with whom Pat had personal interactions, I would like to express our wholehearted gratitude for his 37 years with 3M, his wise leadership and to wish him and his wife Angie all the best as they take this next important step in their lives together.

In my years with 3M Unitek, I have worked through the areas of finance, sales, marketing and in recent years I have been developing and expanding our business throughout Europe. During this time, I have lived in Mexico, California (now three times), Switzerland, Germany and the UK. My philosophy has always been to get to know everybody involved in our business, particularly our customers.

The strategic direction of the business, especially our focus on innovative, high impact products designed to make the orthodontist’s life easier has produced quality, sustainable growth. The company is stronger than it has ever been financially. We have continued to outperform the industry we serve in terms of our sales growth in both the U.S. and in international markets. We have a pipeline of innovative new products coming which will help sustain our sales growth for years to come. Today, our customer service levels are at all-time record highs. These outstanding achievements are a direct result and reflection of the dedicated professionals we have employed at 3M Unitek.

I want to take this opportunity to thank everyone throughout our global organization for your many contributions to the ongoing success of the business and thank our valued customers for choosing 3M Unitek as your preferred supplier. I would like you to know that I will “Take Control” to assure you of the highest levels of service and quality that you have come to expect from 3M Unitek. We will strive always to live up to our “Vision Statement” and continue to build on our close relationships with you our customer. ■

• 3M People and Products Aid September 11 Disaster Relief

3Mers have opened their checkbooks and put in many extra hours at work to provide aid to the disaster relief effort and victims and their families in the wake of the September 11 attack by terrorists on two American cities.

3Mers have opened their checkbooks and put in many extra hours at work to provide aid to the disaster relief effort and victims and their families in the wake of the September 11 attack by terrorists on two American cities.

The company quickly established a \$250,000 fund to match employee and retiree contributions to the American Red Cross, the Salvation Army and the United Way. This match also includes 3Mers outside the United States, uniting the 3M global community in this effort. 3M also provided the American Red Cross of the St. Paul, Minn., area with office space and telephones to help the organization respond to an outpouring of calls from people wanting to offer their assistance.

3M has donated nearly \$1 million in products to help in disaster relief in both New York City and Washington, D.C. Donated products include:

- 65,000 particulate respirators to protect rescue workers and more than 1,000 grinding shields and 200 and welding shields;

- thousands of rolls of 3M™ Vetrap™ Bandaging Tape and cases of 3M™ Vetbond™ Tissue Adhesive for the hard-working search and rescue dogs;
- medical supplies, including 1,800 inhalers and 1,000 cases of 3M™ Avagard D™ Instant Hand Antiseptic for rescue workers, health professionals and injured people; and
- more than 55,000 rolls of box sealing tape, a pallet of tape handles, four pallets of 3M™ Scotchlite™ reflective material for workers' clothing and five cases of ear plugs.

In addition, an emergency response team has been working around the clock, seven days a week to respond to increased calls for assistance with 3M products. 3Mers from Austin, Texas, provided 24-hour on-site technical support to Verizon Communications technicians working to re-establish the telephone circuits needed to operate the New York Stock Exchange.

“We anticipate making additional product donations as the recovery effort continues,” said Dave Powell, a 3M vice president and a director of the 3M Foundation. “However, it is the involvement of our employees and retirees that make a real difference in the lives of people.” ■

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• Quality: Dealing With Variability

By Jerry Horn; Quality Manager



Variability is a part of our everyday lives; from the time it takes us to commute to work to the time we spend doing a task. We accept it as part of our daily existence, rarely thinking about the fact that anything that happens, never happens twice in the same way.

When you meet with your patient, you explain to the patient the expected outcome of the treatment, thus creating expectations. You have a specific result in mind, but you don't explain to the patient the entire process that will get you to that result. Secondly, that

specific result is actually a group of final results, which cluster around the result you explained to the patient. This is a result of the variability in the treatment process, something that cannot be averted even with the best controls in place. **As it is with your treatment, so it is with the materials that you use.**

3M Unitek's **Quality Policy** states that “3M Unitek will Develop, Produce and Deliver, On Time, Products and Services That **Meet or Exceed the Customers' Expectations.** These Products and Services Must Be Safe, Reliable, and Environmentally Acceptable.”

continued on page 17

• MBT™ System as the 3rd Generation Programmed and Preadjusted Appliance System (PPAS)

by Masatada Koga, D.D.S., Ph.D



Dr. Masatada Koga, D.D.S., Ph.D, is an assistant professor in the Department of Orthodontics at Tokyo Dental College, Japan. Dr. Koga received his Ph.D in Orthodontics at Tokyo Dental College, 1974. He has researched the Straight-Wire™ System since 1976, and has been in association regarding the research of this system with Dr. Richard P. McLaughlin since 1992. Dr. Koga is a member of the Edward H. Angle Society of Orthodontists, Southern California Component, and a member of the American Association of Orthodontists.

④

SWA, developed by Andrews, dramatically changed the concept of the Edgewise Appliance System. This epoch-making creation by Andrews was a natural result of the evolution of the Edgewise Appliance System, which has always been intended for three-dimensional tooth movement since its development by Angle. Meanwhile, Roth's most important contribution to orthodontics is the introduction of the Functional Occlusion Concept, which made orthodontics better qualified as a discipline of dentistry. He made another important contribution by simplifying and spreading the SWA as Roth Set Up, which can be regarded as the 2nd generation SWA. Thus, Andrews and Roth built the foundation of PPAS (Programmed and Preadjusted Appliance System) and popularized this system. As a result, PPAS is now

used worldwide with an established reputation for its treatment effect. However, the system was yet to be refined through modification of mechanics, that is, bracket position, bracket specifications (torque, angulation and in/out), arch form, method of space closure, anchorage, etc. This modification of mechanics was the primary objective of the introduction of the MBT™ Versatile+ Appliance System as the 3rd generation PPAS by McLaughlin, Bennett and Trevisi. The diagram below outlines the structure of the MBT System with a brief description of 'Modification of Mechanics'. It is intended that the diagram will help sort out the information concerning the MBT System. Various types of malocclusions treated with the MBT System are presented on the following pages.

MBT™ APPROACH

CLINICAL ORTHODONTICS

<u>Diagnosis</u>	<u>Treatment</u>
Ceph. Analysis	Phase I Treatment System
Dental VTO	MBT Bracket System
Dx for Orthognathic Surgery	Modification of Mechanics
Dx for Functional Occlusion	* Bracket Placement System (gauge & chart)
	* 3 Arch Form System
	* Archwire Sequence
	* Lace Back and Sliding Mechanics
	Orthognathic Surgical Approach
	Orthodontic Treatment for TMD patient
	Evaluation



CLINICAL RESEARCH

CONTINUING EDUCATION

Text book

- (I) : Orthodontic Treatment Mechanics and the Preadjusted Appliance
- (II) : Orthodontic Management of the Dentition with the Preadjusted Appliance
- (III) : Systemized Orthodontic Treatment Mechanics

MBT Course Program

- I Introduction to MBT system
- II Mechanics
- III Occlusion & TMJ
- IV Diagnosis, Planning & Mechanics
- VI Surgical Orthodontic Treatment

Case 1 treated with the MBT™ System

Class I minor crowding case with occlusal instability

Masatada Koga, D.D.S., Dept. of Orthodontics, Tokyo Dental College Suidobashi Hospital, Tokyo, Japan

Diagnosis and treatment plan

A 29-year-old female patient (Fig. 1) presented with occlusal instability (inability to chew well). Skeletally, she had a counterclockwise brachyfacial pattern with a large mandible and a skeletal Class III jaw. There was no problem dentally (Fig. 2). Non-extraction treatment was chosen since there was no need to change axial inclinations and crowding was very minor. This type of a case is suitable for checking properties of a bracket system.



Figure 2

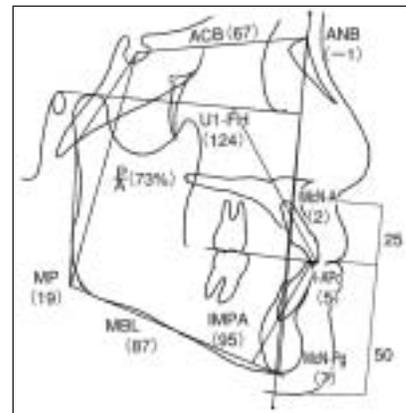


Figure 1



Treatment progress and evaluation

Leveling was initiated with .014 HA wires (Fig. 3). The posterior occlusion was improved. However, the anterior overjet increased (Fig. 4, 5), which was attributable to the triangular shaped incisors with heavy marginal ridges. To solve these problems, the four upper incisors were sliced mesially and distally for space gathering and closure with active tiebacks (Fig. 6). .019x.025 SS wires were used for finishing, resulting in solid and stable occlusion after treatment (Fig. 7, 8, 9, 10, 11). The patient was satisfied with improved chewing ability. It is desirable to perform slicing of incisors with such a shape prior to bracket placement.



Figure 10

Figure 11



5

Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Case 2 treated with the MBT™ System

Skeletal Class III with crowding treated by non-surgical approach

Ryoichi Niikura, D.D.S., Niikura Orthodontic Clinic, Isehara, Japan

Diagnosis and treatment plan

A female patient aged 17-year-7-month-old presented with high canines. The face was symmetrical with a slightly protrusive lower lip. Skeletally, the mandible was overdeveloped (ANB 2.6°, Wits -7mm). Dentally, the lower incisors were tipped lingually (L1 to mand. pl. 84.4°) with Class III canine and molar relationship. Upper and lower arch length discrepancies of -5mm and -6mm, respectively. The case was diagnosed as skeletal Class III case with crowding (Fig. 1, 2) and a non-



Figure 2

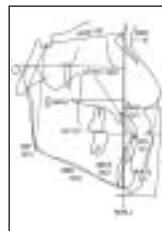
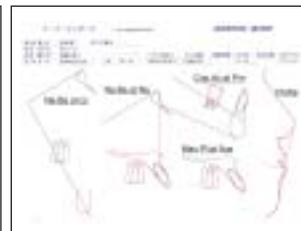


Figure 3



surgical approach was used upon the patient's request. The treatment plan included extraction of upper second and lower first premolars and use of .022" MBT Bracket System for elimination of crowding, crossbite correction, and establishment of Class I occlusal relationship (Fig. 3).

Figure 1



Treatment progress and evaluation

⑥ Leveling was initiated with .014 Nitinol wires (Fig. 4), followed by leveling, mesial movement of the upper first molars, and distal movement of lower canines with plastic chain (Fig. 5) for 7 months. Space closure and establishment of occlusal relationship were accomplished in 10 months with sliding mechanics using .019x.025 SS wires (Fig. 6). Upper wraparound-type removable retainer and lower 5-5 fixed lingual retainer were used.

The use of MBT™ brackets and nickel titanium wires greatly facilitated the elimination of crowding. .019x.025 SS wires were used as ideal arches for long enough to effectively express the tip, torque, and in/out specifications of the brackets.



Figure 7



Figure 8



Figure 4 and Figure 5

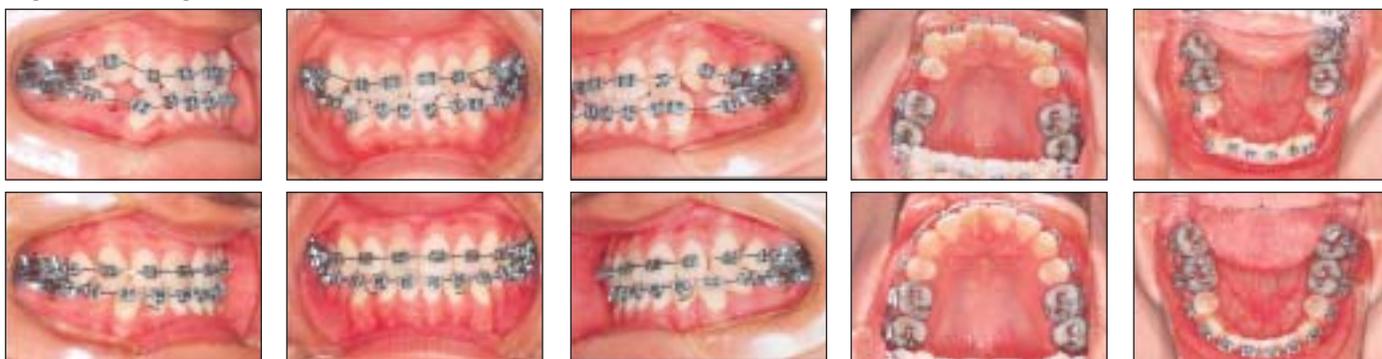


Figure 6



Case 3 treated with the MBT™ System

Bimaxillary protrusion case

Takashi Ninomiya, D.D.S., Ninomiya Orthodontic Clinic, Matsuyama, Japan

Diagnosis and treatment plan

A 28-year-5-month-old female patient (Fig. 1) had skeletal Class I bimaxillary protrusion and labially inclined upper incisors. Her chief complaint was protrusion of the lips. Lower arch length discrepancies were -2.5mm on the left side and -3.5mm on the right side with -2mm of Curve of Spee and -4mm of cephalometric correction, total discrepancy being -12mm. A decision was therefore made to extract four first premolars for



Figure 2

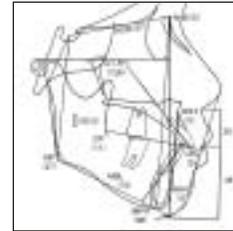
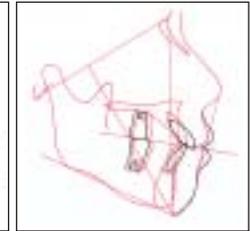


Figure 3



5mm of lower incisor retraction (Fig. 2,3). While 2mm of anchorage loss was allowed for the lower molars, the upper first molars were held with Nance™ Holding Arch and headgear.

Figure 1



Treatment progress and evaluation

Lacebacks were used upon initiation of leveling (Fig. 4) for canine retraction (Fig. 5). After one year of leveling and canine retraction, the anterior teeth were retracted for 6 months with sliding mechanics using posted archwires (.019x.025) and elastic tiebacks in combination with headgear and Class II elastics (Fig. 6). The appliance was removed after 5 months of detailing. Active treatment time was 2 years and 3 months (Fig. 7, 8).

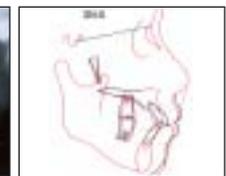
Although the upper anterior teeth were intruded less than the V.T.O., the incisor position appeared to be acceptable in relation to the lip line (Fig. 10). The treatment goals were nearly achieved with minimal wire bending for compensating torque on the upper incisors and light reverse curve in the lower arch. The roots were nice and parallel (Fig. 9). It may be safer to regard a



Figure 9



Figure 10



case allowing only 2mm of posterior anchorage loss as a maximum anchorage case in orthodontic treatment with a preadjusted appliance.

Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Case 4 treated with the MBT™ System

A functional, anterior crossbite case

Hiroki Hayashi, D.D.S., Hayashi Orthodontic Clinic, Tateyama, Japan

Diagnosis and treatment plan

The patient was an 11-year-7-month-old female with no facial asymmetry. Her profile was almost straight with a protrusive lower lip. Intraoral examination (Fig. 1) revealed 2mm of crowding in the upper arch and 4mm of spacing in the lower arch. The patient showed CO-CR discrepancy due to premature contacts between the upper and lower central incisors. There were -2.4mm of overjet and +5.2mm of overbite. Non-extraction treatment was planned for this high-angle case with a



Figure 2

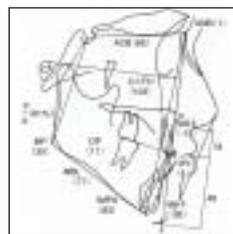
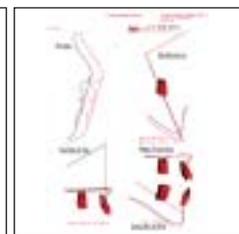


Figure 3



functional, crossbite to level and align the lower arch, followed by anterior retraction using the available space, and to tip the upper anterior teeth labially for overjet correction.

Figure 1



Treatment progress and evaluation

8

The lower arch was leveled with lacebacks to the canines (Fig. 4), followed by retraction of the lower anterior teeth and leveling of the upper arch at the same time (Fig.5). 10° torque brackets were placed on the upper anterior teeth to prevent their excessive labial tipping (Fig. 6). The case was finished with .019x.025 finishing archwires after 16 months of active treatment (Fig. 7). Posterior anchorage loss was minimized with the use of lacebacks to the lower canines during leveling of the lower arch. Torque control of the upper anterior teeth against excessive labial tipping was also successful (Fig. 10). Fig. 9 shows the post-treatment panoramic radiograph.



Figure 9



Figure 10

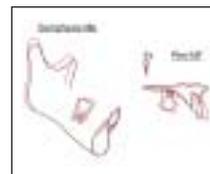


Figure 4

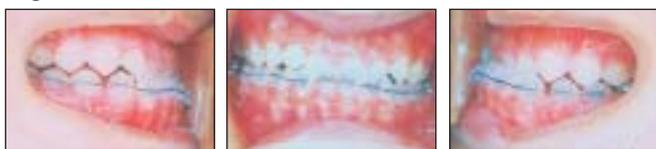


Figure 5



Figure 6



Figure 7



Figure 8



Case 5 treated with the MBT™ System

A Class II high-angle case with an open bite

Tomoaki Suganuma, D.D.S., Suganuma Orthodontic Clinic, Toyohashi, Japan

Diagnosis, treatment plan and mechanics

This case was diagnosed as an Angle Class II malocclusion with an open-bite (Fig. 1, 2) and planned for four first premolar extraction to improve axial inclinations of teeth while maintaining Fx (Fig. 3). The treatment plan also included the use of palatal bar, Class II elastics, and MFT to eliminate tongue habit. Lacebacks to canines were started as soon as .014” Nitinol wires were placed as initial archwires (Fig. 4). .019x.025 SS wires were used as active wires for space closure by sliding



Figure 2

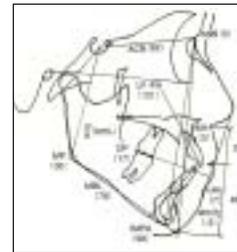
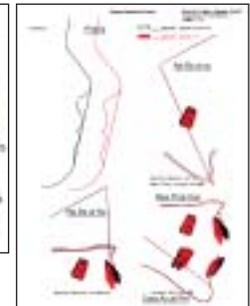


Figure 3



mechanics (Fig. 5, 6). Intermaxillary springs and short Class II elastics (bite fixers) were used for Class II correction (Fig. 6, 7).

Figure 1



Treatment progress and evaluation

Post-treatment intraoral and facial photographs are shown in Fig. 8 and panoramic radiograph in Fig. 9. Fx opened by 1° (Fig. 10). A palatal bar was used to reinforce upper molar anchorage. Use of a high-pull headgear would have further increased both vertical and horizontal anchorage and prevented Fx from opening. Brackets were placed upside down on the palatally displaced upper lateral incisors. Bends were needed for the upper and lower canines during finishing, which seemed to be due to the morphology of the canines. Treatment time was only 1 year and 6 months (Fig. 8).



Figure 9



Figure 10

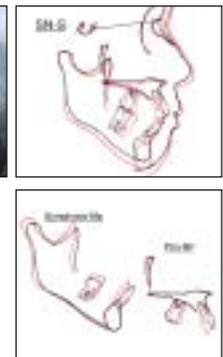


Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



• The Use of Non-Convertible Tubes

– An interview with Dr. John Bennett



Dr. John Bennett, London, England

Dr. Bennett helped to develop the MBT™ Appliance with Drs. McLaughlin and Trevisi. It was released in May 1997, and since then there has been a program of continuous development of both the appliance and the overall treatment philosophy. In this interview he discusses recent improvements, highlighting some of the advantages of non-convertible tubes for lower molars and second premolars.

Editor I know a lot has been happening with the MBT™ System this year – please tell us about it.

Dr. Bennett Yes, 2001 is a year of major progress. We had an excellent Global User Group Meeting in San Diego in May, followed two days later by a meeting of European Users. On the publishing side there is the new book *Systemized Orthodontic Treatment Mechanics*, and also there are special editions of ‘Informationen aus Orthodontie und Kieferorthopädie’ and ‘Revista Española de Ortodoncia’, due to be published this fall. Drs. McLaughlin and Trevisi are continuing to give courses and in-house programs, and are completing the task of transferring all their slides into laptop presentations. Additionally, Dr. McLaughlin has been working closely with Dr. Guido Sampermans and Dr. Nico Vrijens on other teaching material.

Editor There has been a lot of interest in the new book. Will it be available in other languages?

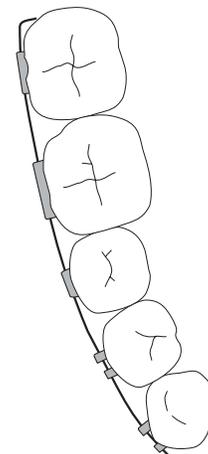
Dr. Bennett We have translation teams at work worldwide, and there are firm plans to produce editions in German, Greek, Italian, Japanese, Korean, Polish, Portuguese, and Spanish, with a few other languages under discussion. We are especially grateful to Dr. Zeng Xiang-Long and to Dr. Tian Min Xu, at the University of Peking, in Beijing. They have kindly agreed to organize and oversee the translation into Chinese. We expect the co-editions to start to appear at the end of this year, but some will take longer than others.

The new book presents a clear statement of our current thinking. Of course, there is scope for individual variation within the philosophy, but we are anxious that the principles of the treatment method are understood and adhered to, especially by those with a teaching connection. We therefore attach great importance to the international co-editions, because they avoid misunderstandings, and help to ensure that a consistent message goes out.

Editor And there are new MBT lower first molar tubes, due to come on stream at the end of the year?

Dr. Bennett Yes, since the appliance was released four years ago we have continued to develop and improve it, widening the range of options. For some time we have favored non-convertible tubes, and we discuss these in the new book. They are a useful option for lower first molars in many cases, and recently we agreed final designs for new MBT™ System non-convertible lower first molar tubes and also non-convertible tubes for second premolars. These are all scheduled to be released in the coming months. In the future we expect to use more non-convertible tubes, particularly in the lower arch (Fig 1).

Figure 1: We anticipate greater use of non-convertible tubes in the future, particularly in the lower arch.



Editor There is a movement towards the use of non-convertible MBT™ System Molar Tubes?

Dr. Bennett Absolutely. Historically, the perceived advantage of a convertible lower first molar tube was that it allowed vertical and/or torque bends to be placed between first and second molars. Now that we have established correct torque specifications for the lower molar regions (for example -10° for the second molar tube compared with -35° with the original Straight-Wire™ Appliance), and we have improved vertical positioning (thanks to gauges and bracket positioning charts), there is seldom any need to introduce vertical bends or individual torque into the archwire in the molar regions. Progressive torque is sometimes needed, but this can be accommodated using non-convertible tubes.

Editor What do you see as the main advantages of non-convertible molar tubes?

Dr. Bennett Essentially, they produce less interference, especially in close-bite cases (Fig 2), and they are more comfortable. They are smaller, and therefore easier to keep clean. They are stronger and less vulnerable to biting forces (Fig 3). Hence there is a reduced risk of bond failure or other damage, such as closing down of the .022 slot due to heavy biting. Non-convertible tubes can therefore be bonded with greater confidence than the traditional convertible type, and I think all of us are moving towards more bonding and fewer bands.

Figure 2: Non-convertible tubes produce less occlusal interference, and they are more comfortable and cleaner, with less vulnerability to breakages.

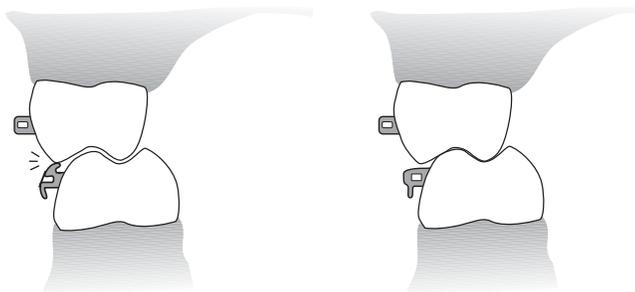
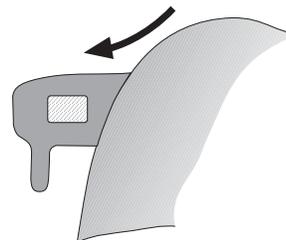


Figure 3: There is less risk of damage or bond failure due to biting forces, and therefore more opportunity for bonding in preference to banding.



Editor The idea of second premolar tubes sounds interesting.

Dr. Bennett Yes, these have been under evaluation for two years, mainly in the lower arch. We have been discussing the concept with colleagues, and mentioned them in our lectures. They seem to provide a useful treatment option. In the future I believe they will be used increasingly, especially in the lower arch, and they are therefore featured in the new book.

Editor What has made it possible to move to non-convertible second premolar tubes as an MBT System option?

Dr. Bennett Archwire technology! This has been running ahead of appliance design parameters. The availability of HANT (heat-activated nickel titanium) wires opened up the option of using second premolar tubes on selected cases. The very flexible .016 HANT wire can be threaded through at the start of treatment in cases with minor premolar rotations. Later in treatment, the prior use of rectangular .019/.025 HANT allows an easy and uneventful transition to the steel rectangular working wire.

In clinical use on about a hundred cases, mainly in the lower arch, I have found non-convertible second premolar tubes easy and reliable to use, except where we had a major premolar rotation at the start of treatment. In those cases we had to fall back to normal twin brackets initially, but could switch to tubes after the tooth alignment stage, if we chose. During this initial clinical evaluation, premolar tubes were found to be stronger, cleaner, and more comfortable than normal brackets. They were definitely helpful in close bite cases and where a case required correction of a Class II relationship. The A/P correction was facilitated, with less interference and less risk of bond failure.

Editor Thank you for giving time for this interview and for these interesting insights. ■

• Systemized Orthodontic Treatment Mechanics

Dr. Richard McLaughlin

Dr. John Bennett

Dr. Hugo Trevisi



New book of special interest to MBT™ System users

A new comprehensive text, *Systemized Orthodontic Treatment Mechanics*, from Drs. McLaughlin, Bennett and Trevisi, will be of great interest to orthodontists worldwide, and in particular, to MBT™ System users. Entirely new, it defines the authors' current treatment philosophy, follows their easily readable style, and contains ultra-clear layouts and diagrams.

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Written by orthodontists, for orthodontists, this book provides the clinical orthodontist with an accessible and practical guide to the MBT System treatment philosophy. It brings together the four components which make up modern treatment mechanics: Bracket Design, Bracket Positioning, Archwire Selection, and Force Levels.

Chapters include:

1. A brief history and overview of treatment mechanics
2. Appliance specifications: variations and versatility
3. Bracket positioning and case set-up
4. Arch form
5. Anchorage control during tooth leveling and aligning
6. Arch leveling and overbite control
7. An overview of Class II treatment
8. An overview of Class III treatment
9. Space closure and sliding mechanics
10. Finishing the case
11. Appliance removal and retention protocols

The book was originally planned as a second edition of the first Bennett and McLaughlin text, *Orthodontic Treatment Mechanics and the Preadjusted Appliance*, published in 1993. However,

there have been so many technological changes and improvements over the past eight years that an entirely new text became necessary, supplementing the general message of the first.

A second Bennett and McLaughlin text, entitled *Orthodontic Management of the Dentition with the Preadjusted Appliance*, was published with Isis in 1997, and is scheduled to be republished with Mosby early in 2002. This book devoted a chapter to each tooth in the dentition, emphasizing clinical situations relating to each tooth. It evolved into a far more extensive project than initially intended, and required a substantial manuscript to cover the wide range of material.

The new third textbook returns to a concise format, somewhat similar in scope to the first, and replaces it. Its primary focus is on orthodontic treatment mechanics, in particular intra-arch considerations, or the maneuvers involved in alignment and maintenance of the dentition in each individual arch. These factors are dealt with in Chapter 5: "Anchorage control during tooth leveling and aligning", Chapter 6: "Arch leveling and overbite control", Chapter 9: "Space closure", and Chapter 10: "Finishing the case".

Inter-arch considerations, or the co-ordination of the upper and lower arches in three planes of space within the facial complex, are also given a greater emphasis than previously. In particular, Chapters 7 and 8 deal with Class II treatment and Class III treatment, respectively. These are extensive subjects, but an attempt is made to present a concise and up-to-date perspective on the general management of these two categories of case. Additionally, the authors review the important contribution of Dr G. William Arnett, and show how his diagnostic concepts are relevant to current MBT System diagnosis and treatment planning.

With the advent of improved orthodontic and surgical techniques, emphasis has moved away from Angle's focus on

molar relationship, and has shifted more toward the upper incisors as a starting point. In Chapter 7, the authors discuss how it is possible to base treatment planning on the position of the upper incisors, instead of using the molars or the lower incisors as a starting point. At the start of treatment planning it is possible to envision an “ideal” position for the upper incisors. For many cases treatment mechanics can then be planned to position the incisors ideally and subsequently to fit all the other teeth around this ideal position. In other cases the “ideal” incisor position will not be a realistic goal, and a less-than-ideal, but none-the-less acceptable, position for the incisors needs to be used as a basis for treatment planning.

After using the original “Straight-Wire™ Appliance” for nearly 20 years, it became important to provide modifications to the appliance to more closely complement modern treatment mechanics. This led to the development of the MBT™ System. Chapter 2 on appliance specification deals with the rationale behind the changes made in developing the appliance system. Information is given on the latest variations, as well as on the versatility of the appliance.

The bracket placement chart, developed in 1995, has been most valuable in the important area of bracket placement. The text discusses recent developments in bracket placement techniques. Renewed interest in indirect bonding, for instance, has occurred because of improved products, such as adhesives and tray materials.

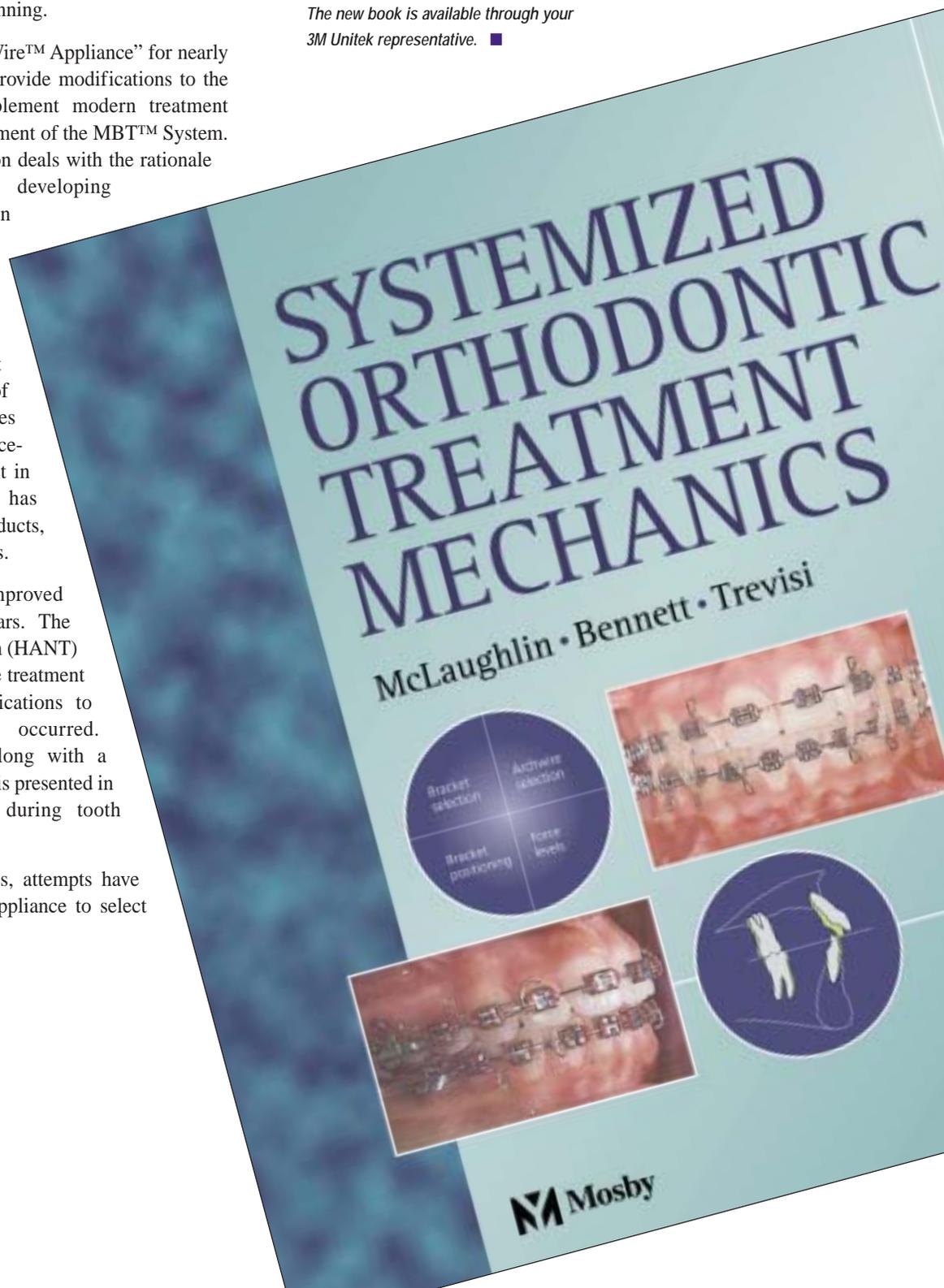
Archwire technology has improved dramatically over the past eight years. The use of heat-activated nickel titanium (HANT) wires has become a vital part of the treatment system, and consequently modifications to the treatment mechanics have occurred. Information on HANT wires, along with a discussion of archwire sequencing, is presented in Chapter 5 “Anchorage control during tooth leveling and aligning”.

Since its introduction in the 1970s, attempts have been made with the preadjusted appliance to select

and use a single arch form on most patients. Even using the most frequently observed arch form in the orthodontic population, the authors identified numerous cases that were either too narrow, or over-expanded. Therefore, Chapter 4 is dedicated to the subject of arch form, and presents efficient techniques for managing arch form selection and archwire coordination.

Chapter 11 is dedicated to retention protocol, which is a new subject for this text. It gives an overview of the protocol, as well as describing the methods most frequently used by the authors.

*The new book is available through your
3M Unitek representative. ■*



• Have You Got a Vision of Your Future?

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".

As I lecture around the country and indeed around the world, what strikes me as fascinating as well as tragic is that few orthodontists have ever developed more than a cursory plan for their practice or their future. They seem to bounce around from idea to idea, reacting to events and circumstances rather than CREATING them. It seems that they feel their life is not under their control. Their role in life is to respond as best as they can to change as it is thrust upon them.

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To illustrate my point let me offer a simple test:

1. How did you react to orthodontic MSOs?

- Did you feel that you were in control of your destiny?
- Did you feel that others held this power and that you were a pawn in the process?
- Did you talk to your colleagues who joined one?
- Did you talk to gurus you respected who joined one?
- Did you avoid contact with colleagues and/or gurus who joined one?
- Did you actively participate in the exchange of ideas and the development of solutions that this paradigm shift represented to our profession?

2. What prompted you to last change your office mechanics?

- Your orthodontic supplier brought a new product to market and introduced you to it
- A guru taught a course about it
- You were inspired by thoughtfully reviewing your treatment results

3. What prompted you to last change your office business systems?

- Your computer system vendor forced an upgrade upon you without choices
- You took a course with a guru on practice management
- You detected a problem and developed solutions

4. Why did you last change your office schedule, payment policies, or staff benefits?

- Did you respond to personal needs?
- Did you respond to staff needs?
- Did you respond to staff demands?
- Did you respond to market conditions you felt you had no control over?
- Did you change because after planning and thoughtful review you discovered a "win-win" opportunity to better serve your own needs, that of your staff, and that of your patients?

What answers you chose for these simple questions gives you some insight to your management style. Sadly, most orthodontists today are extremely successful. I say this not that I resent their success – bravo to you all! I say this because your success has likely not been the result of insightful planning and goal achievement. More likely it has been a result of your good fortune to have chosen a great profession, located in a great area, and benefited from an increased demand for your services at a time when more and more people can afford them. For the past decade orthodontics has been very good indeed.

The question I ask is this:

- Will orthodontics be as good in the next decade if we fall into recession?
- Have you developed a plan for a decline in new patient exams or new patient starts with a recession?
- Have you developed a strategy to deal with third party effects (insurance coverage changes and dictates, government policy changes, MSO or similar third party practice management companies) on your practice life?
- Have you planned for the next decade personally and professionally?
- Have you thought about how to make your office, your treatment, or your personal life better next week, next month, and next year?

In The Bottom Line® courses I begin by asking some simple but important questions. They force you to address such issues as what do you want from life personally and professionally. (Never forget that your practice is merely a means to an end – it allows you to reach for the stars and achieve what you want for your LIFE!) I ask audiences simple questions such as:

- How much money do you want to make this year?
- How much money do you NEED to make this year?
- How many hours do you want to work in a day?
- How many hours are you WILLING to work in a day?
- What are your ideal office hours?
- What adjustments are you WILLING to make in your hours to satisfy your patients?
- How many days/week do you want to work?
- How many days/week are you WILLING to work?
- How many weeks vacation do you want/year?
- How much time do you need from your practice to satisfy your personal needs, those of your family, those of your church or other groups?

These sound like simple questions. I have found very few orthodontists have ever thought about the issues that arise from answering these questions. (I ask for a show of hands at my courses.) Of those who have thought about the implications of their answers, few have initiated changes in response to their findings. Of those that have initiated changes in policies and procedures, none of them regularly update their strategies and goals in response to their changing needs.

In The Bottom Line® course I point out that a critical element of life is stated in the words of the Declaration of Independence “life, liberty, and the pursuit of happiness”. They apply to our life as well as our practice. Although these rights were won for us in a war, they must be individually accomplished. Too few of us have taken the time to sit down and write out the answers to such simple questions as those above. Put simply, orthodontists tend to REACT to change rather than CREATING it. This is what prompted me to say that I am saddened that so many orthodontists are successful. Their practice success has created wonderful financial rewards with neither the time nor the desire to PLAN nor EVALUATE. We are victims of our success!

What is better? To have success (measured by whatever yardstick you choose to apply) by sheer blind luck or to have success as a result of a deliberate plan achieved? I believe that the latter is better. Let me explain why.

When you develop a plan it is based upon goals developed from personal as well as professional needs. Balance has been planned for. Further, success derived from thoughtful planning is based upon the values you have learned throughout life, which assures that success is indeed ENJOYED! It fits your vision for what you wanted out of life.

Contrast planned, value driven success with success that was by chance and you will quite often see an unhappy doctor and staff, an overworked doctor, or a life completely out of balance.

Let me tell you a bit of my (practice) life’s story. I opened my first office in 1974 in the depths of a recession. Interest rates were 22% on money I borrowed for my practice – few could borrow the money at all. I worked doing dentistry at a safe distance from my orthodontic practice and continued teaching at the University of Illinois orthodontic program. I worked outside the practice simply because I had to. I needed outside income to live on and to fund my office overhead expenses. In my first year I started 12 patients. I maintained my goals and my values, working hard to achieve my vision for the future. So far, this story is very similar to that of many practicing orthodontists. It was called “paying your dues”. Whether opening from scratch or buying an existing practice, the new graduate works hard to get ahead and fulfill his/her practice goals.

By the fifth year in practice I had opened a second office (in a better location than my first inexperienced choice was). I had taken on an associate who became my partner and we were experiencing growth of 20% every year. After 15 years we were a practice with 4 doctors in three practice locations starting 120 patients/month. We routinely saw 100+ patients/day. We had all the latest orthodontic “toys”, big houses, hot cars, the country club life. We had succeeded in creating “the leading orthodontic practice” in Illinois. Life was good, right?... WRONG!!



The exterior of one of Dr. Selke's offices

In my quest for practice success I had lost my vision for the practice I wanted to have. I was being driven by the gurus of the day who extolled the virtues of “bigger is better”, starting 100 patients/month, seeing 100 patients/day. What was driving the profession in those days were the gurus of MARKETING! No question what they taught worked based upon my office’s performance. In the process, however, I lost balance. The practice and its success became an addiction. I worked to not just meet the “standards” set by the gurus, but to beat them! In the process I got divorced, I came to hate orthodontics, and our quality slipped. The well oiled machine I had created became a broken down, out of control disaster that could barely correct “problems” that arose daily rather than prevent them in the first place. I actively planned to leave orthodontics for a vocation that seemed less stressful and more rewarding.

As I detached myself from the practice we went from a four-doctor practice to three. Then the second “divorce” of my life occurred as my partners and I split the practice. It was 1/3 the size it had once been.

What went wrong? We had lost sight of our vision for the practice and balance in our life. The practice and events surrounding it took over my thoughts, clouding the good judgement that could have prevented disaster. It was my fault. It was now 1991.

What followed was some soul searching and a commitment to “get back to basics”. My remaining partner and I dedicated ourselves to returning balance to our lives. We dedicated ourselves to recreating an exceptional practice from the ashes of a disaster. We developed a plan for the future and we brought on a staff who shared our vision and the values that made it worthwhile. Today, 10 years later, we are nearly five times our size after our practice divorce.

There, however, is a huge difference in our large practice now versus the large practice of the past. We and our staff absolutely LOVE going to work. We share (and regularly implement) ideas on quality, management, marketing. We jointly develop plans and goals for the near and long term. We develop them together at two staff retreats a year. There is universal agreement on where we are going and how to get there. Importantly, this time around we have not lost sight of the values that led to our success as we continually improve every aspect of the practice. We are now in control of our destiny rather than reacting to events seemingly out of our control.

The title of this article is “Have you got a vision of your future?” Are aspects of your practice or your life similar to those just outlined about mine? In The Bottom Line® courses I emphasize that a wonderful advantage of being an orthodontist is that you are the boss, the owner, the big kahuna. With this position comes the responsibility to manage and to lead. Too often these roles are delegated or simply abdicated by us. Life by trial and error or relinquishing the management of the practice to a third party logically follow next. I ask doctors in my courses (who have taken these pathways) whether the practice now created still fits their vision. Too often the answer is a resounding NO! If you fit the profile I have just described, I ask you not to allow yourself to fall into the trap of a sense of hopelessness. There is always hope. You will need to work hard, very hard to regain control of your goals and your vision. It will be worth the effort.

There is great news! You can find help in getting back on track. The Bottom Line® course gives every doctor the opportunity to take two steps back and evaluate what they have created, whether it fits their vision, and what to do to make it fit their vision.

I believe that anyone with the intelligence to graduate from an orthodontic program has the ability to achieve any life or practice goals they set. Further, I strongly believe that each

doctor not should but MUST develop his/her own goals. We all have different needs, wants, and desires. I feel it is wrong for doctors to develop a practice in the vision of a paid consultant who will mold their practices to fit a business model based upon other successful practices. It is equally wrong to aimlessly go through life reacting to events and circumstances seemingly beyond your control.

I developed The Bottom Line® courses to give, as stated in the banner, “successful strategies for private practice orthodontists”. The process begins by you telling me what you want. You must, in other words, articulate your vision. We then work together to develop a plan to achieve it.

If you feel you would benefit from developing a new (or perhaps reacquired) direction for your practice based upon your vision and your values, I encourage you to attend a **One-Day Introductory Program or a Two-Day Resident Program**. We do allow practicing orthodontists to attend the resident programs. Practitioners will go home from either course picking up a number of quite valuable pearls. Dates and locations can be found in this issue of *Orthodontic Perspectives*. This will allow you to get a “flavor” of what The Bottom Line® program is all about. Contact your 3M Unitek representative or call the 3M Unitek CE Hotline at 1-800-852-1900, extension 4649 to register.

To develop an in depth, individualized, and comprehensive plan to achieve your vision I encourage you to register for The Bottom Line® Comprehensive Series. **Only one Comprehensive Series is offered each year** (it is exhausting for me, too). **The next Comprehensive Series begins June 27, 2002 in Gurnee, Illinois.** If you can articulate your goals and are willing to work HARD, the Comprehensive Series will give you the tools needed to succeed. If you can’t articulate your goals, I will help you do so. Then we will focus upon how to achieve your goals.



Some of the participants at Session I of The Bottom Line® Comprehensive Course in Maui, February 2000.

For doctors who feel that their practices are under control and they have achieved their practice and personal goals but are constantly seeking “pearls” that will take them to the next level, I would encourage you to join **The Bottom Line® Study Group**. This group of successful practitioners will meet annually to share ideas on practice management and marketing. **Our first meeting will also take place in St. Thomas in February, 2002 where noted lecturer Dick Collier will add his powerful program on wealth accumulation, and how to keep your wealth (tax planning).**



Dick Collier will be this year's prestigious guest speaker during The Bottom Line® Study Group, February 3-9, 2002

To register for The Bottom Line® Comprehensive Series or the Study Group, call 1-877-ORTHO34.

There is an old line that goes “Incredible as it seems, my life is based on a true story”. It seems for all of us the question to be answered is – Who is the author and was there a happy ending?

We have a wonderful profession. We need to preserve it by doing things right every way and every day. Recognizing that we are in a service business and that consumers have choices, we need to relentlessly seek ways to improve our services. We also need to find and maintain a balance in our professional versus personal life that will allow us to live life to the fullest. That's why I call my programs “The Bottom Line®”!

Thank you for taking the time to read this article!

Respectfully, Terry

The Bottom Line® is comprised of four components:

1. One-Day Programs for practicing orthodontists
2. Two-Day Resident Programs featuring various speakers. Practicing orthodontists are invited to attend.
3. Comprehensive Series. For practicing orthodontists – attendance and courses are limited.
4. Study Group. Restrictions apply.

For more information:

1. You may visit our web site at orthobottomline.com
2. Contact The Bottom Line® directly at 1-877-ORTHO34
3. Contact your 3M Unitek representative or CE Hotline at 1-800-852-1900, ext. 4649 ■

Quality: Dealing With Variability *continued from page 3*

To meet your expectations, we need to align our processes with your expectations.

We speak of the “Voice of the Customer” and the “Voice of the Process”. We can represent this with a couple of graphs. We know that in the “Voice of the Customer” curve, Figure 1, the farther away we get from the “Target”, the less desirable this result is to you, our customer. Correspondingly we talk of the “Voice of the Process” curve, Figure 2, and the more the process varies from the center, the harder it is to provide a consistent product to you. So what does one do with these variations? We can ignore them, act as if they don't exist and “Que sera sera?” or we can make adjustments based on what we think we know. Neither are satisfactory approaches.

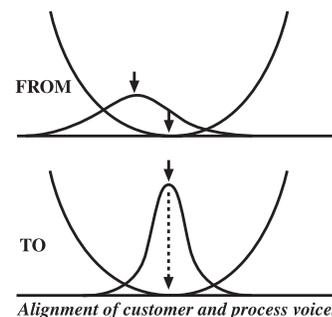
Figure 1



Figure 2



Figure 3



What we do is to “ask you, the customer” what is important, thus developing the “Voice of the Customer” curve. This is typically done during the design phase of a product. In addition, we “measure our process”, thus determining the “Voice of the Process” curve. We combine these two curves, the “Voice of the Customer” and “Voice of the Process” as illustrated in Figure 3. Frequently, as in the upper illustration of Figure 3, these two curves do not align because there is too much variation in the process, as in the flattened out “Voice of the Process” curve, or they are not aligned, that is, the center of both curves are not on target. The ideal situation is the lower illustration of Figure 3. As an organization, 3M Unitek uses various developmental and process tools to align the “Voice of the Customer” and the “Voice of the Process”. This is how we deal with variability at 3M Unitek. It is the challenge we face every day in **meeting or exceeding your expectations.** ■

THE BOTTOMLINE®

Successful Strategies For Private Practice Orthodontists



resident's program

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March 9-10, 2002
Franklin, TN

March 16-17, 2002
Mystic, CT

April 6-7, 2002
Dallas, TX



one-day seminars

How can you evaluate the value of our comprehensive series or study club? To answer this question we have developed one-day seminars that will highlight the fundamental concepts of The Bottom Line®. Available to individual orthodontists and interested orthodontic groups, the One-Day Seminars will provide you with new information and new insights on achieving the highest level of personal and practice success. You see, setting goals and seeking excellence in management, marketing, and training, all impact your bottom line. This could very well be the most valuable seminar that you have ever attended. Spend the day with us and prepare to be inspired.

One-Day Seminars (For Practicing Doctors)

June 23, 2002
Charlottesville, VA

July 12, 2002
Newport Beach, CA

July 19, 2002
Indiana University Alumni
Indianapolis, IN

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comprehensive series

There are few qualified sources today for an orthodontist seeking information on the business aspects of private practice. Existing practitioners facing important decisions on how to grow, become more efficient, become more profitable, while simultaneously improving excellence are similarly hampered. Recent graduates are forced to learn by unguided research, trial and error, or if lucky, by a mentor. The Comprehensive Series will teach you how to set practice goals and give you the tools to achieve them. It will teach you how to develop a patient-centered practice, driven to excellence that is simultaneously fun and hugely profitable.

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Group I, Session IV
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St. Thomas, Virgin Islands

Group II, Session I
June 27-29, 2002
Gurnee, IL

Group III, Session I
October, 2002
Campinas, Brazil

Group IV, Session I
January 25-27, 2003
Hayman Island Resort Australia



study group

Wouldn't it be nice to belong to a study group of respected colleagues that you could share ideas with on how to excel as practitioners as well as businessmen/women? Imagine a forum where private practice orthodontists could share ideas on staffing, scheduling, management, practice transition, marketing, or achieving financial security. Imagine a forum for sharing new ideas in diagnosis or techniques in treatment that will make your results more stable, your treatment shorter, your treatment more profitable, and your patients happier. If these concepts appeal to you, then The Bottom Line® Study Group is right for you.

The Bottom Line® Study Group

February 3-9, 2002
St. Thomas, Virgin Islands

For more information, an informative free CD, or to register for the Comprehensive Series or the Study Group, please contact Ms. Kelly Buchman at 1-877-ORTHO34.

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DATE	SUBJECT	PRESENTER(S)	LOCATION
1/13/02-1/16/02	MBT™ System – In-Office Seminar	<i>Dr. Richard McLaughlin</i>	San Diego, CA
2/3/02-2/9/02	The Bottom Line® Study Group	<i>Dr. Terry Sellke</i>	St. Thomas, Virgin Islands
2/23/02	“Current Concepts in Orthodontic Treatment Mechanics”	<i>Dr. Anoop Sondhi</i>	Tufts University Massachusetts
2/23/02-2/24/02	The Bottom Line® Resident’s Program	<i>Dr. Terry Sellke</i> <i>Dr. Thomas Ziegler</i> <i>Dr. John McDonald</i> <i>Mr. Bill Poss</i>	Arcadia, CA
3/8/02-3/9/02	MBT™ System Diagnosis Treatment Planning – Course V	<i>Dr. Richard McLaughlin</i>	Lincoln, NE
3/9/02-3/10/02	The Bottom Line® Resident’s Program	<i>Dr. Terry Sellke</i> <i>Dr. Thomas Ziegler</i> <i>Dr. John McDonald</i> <i>Mr. Bill Poss</i>	Franklin, TN
3/11/02-3/12/02	“Management of the Dentition”	<i>Dr. Richard McLaughlin</i>	Wisconsin Dells, WI
3/15/02-3/16/02	“The Essence of Efficiency” In-Office 2-Day Seminar	<i>Dr. Anoop Sondhi</i>	Indianapolis, IN
3/16/02-3/17/02	The Bottom Line® Resident’s Program	<i>Dr. Terry Sellke</i> <i>Dr. Thomas Ziegler</i> <i>Dr. John McDonald</i> <i>Mr. Bill Poss</i>	Mystic, CT
4/6/02-4/7/02	The Bottom Line® Resident’s Program	<i>Dr. Terry Sellke</i> <i>Dr. Thomas Ziegler</i> <i>Dr. John McDonald</i> <i>Mr. Bill Poss</i>	Dallas, TX
4/12/02-4/14/02	SUMMIT in Las Vegas	<i>Dr. Richard McLaughlin</i> <i>Mr. Chester Wang</i> <i>Ms. Melanie Mills</i>	Las Vegas, NV
4/19/02-4/21/02	SUMMIT at Whistler “The Essence of Efficiency”	<i>Dr. Anoop Sondhi</i>	Whistler, Canada
6/27/02-6/29/02	The Bottom Line® Comprehensive Series – Group II – Course I	<i>Dr. Terry Sellke</i>	Gurnee, IL
6/27/02-6/30/02	“Full Arch MBT™ Prescription Indirect Bonding” In-Office Seminar and “Ed-Venture” includes 1-Day River Rafting Trip	<i>Dr. John Kalange</i>	Boise, ID
7/12/02	The Bottom Line® 1-Day Seminar	<i>Dr. Terry Sellke</i>	Newport Beach, CA
7/19/02	The Bottom Line® 1-Day Seminar	<i>Dr. Terry Sellke</i>	Indianapolis, IN
7/21/02-7/24/02	MBT™ System – In-Office Seminar	<i>Dr. Richard McLaughlin</i>	San Diego, CA
9/13/02-9/14/02	“The Essence of Efficiency” In-Office 2-Day Seminar	<i>Dr. Anoop Sondhi</i>	Indianapolis, IN
9/19/02-9/21/02	“Full Arch MBT™ Prescription Indirect Bonding” In-Office Seminar and “Ed-Venture” includes 1-Day River Rafting Trip	<i>Dr. John Kalange</i>	Boise, ID
10/25/02-10/26/02	MBT™ System Course VI – Joint Surgical/Orthodontic Seminar	<i>Dr. Richard McLaughlin</i> <i>Dr. G. William Arnett</i>	Boston, MA
11/3/02-11/6/02	MBT™ System – In-Office Seminar	<i>Dr. Richard McLaughlin</i>	San Diego, CA
11/8/02-11/9/02	“The Essence of Efficiency” In-Office 2-Day Seminar	<i>Dr. Anoop Sondhi</i>	Indianapolis, IN

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