NORTH AMERICAN EDITION

Boston® update

NEWS AND INFORMATION FROM THE BOSTON PRODUCTS GROUP OF BAUSCH & LOMB, INC. VOLUME 17 • NOVEMBER 2005

LEAN Visual Management—The 5S's

by Ken Harty, Operations Manager, Wilmington Facility, Bausch & Lomb, Inc.

IN OUR last newsletter, I talked about LEAN manufacturing and how we are applying this philosophy to improve our operations at the Wilmington Facility. In this article, I'd like to introduce one of the basic LEAN tools, ***Visual Management*** and the ***5S*** program for workplace organization. Visual Management is one of the first tools an organization employs as it embarks on its LEAN manufacturing journey.

Visual Management is a set of techniques that:

1. Exposes waste so you can eliminate it and prevent it from recurring in the future.
2. Makes your company's operational standards known to all employees so they can easily follow them.
3. Improves workplace efficiency through better organization.

Implementing these techniques involves three steps:

1. Organizing your workplace by using a method known as the 5S's.
2. Ensuring that all your required work standards (e.g. documents, specifications, etc.) and related information are displayed in the workplace.
3. Controlling all your workplace processes by exposing and preventing errors.

Creating an organized, efficient, cleaner workplace that has clear work processes and standards helps your company lower its costs. Also, employees' job satisfaction improves when a work environment is created that makes it easier for them to get the job done correctly.

The logical question is, "How do you go about creating a Visual Management system?" It all begins with embracing the ***5S's—***

SORT, SIMPLIFY, SWEEP, STANDARDIZE, AND SUSTAIN

continued on page 2

Vision Shaping Treatment™ Design Certification Goes Online

WE HAVE great news for North American contact lens fitters interested in becoming certified in one of the VST™ designs! You can now certify online quickly and easily. Simply go to: www.bausch.com/vst. There you will find all the information you need to take the certification exam for each of the VST-approved overnight ortho-k designs (Figure 1).

Figure 1

Follow these easy steps to get VST Certified online...

1. Open www.bausch.com/vst.
2. Click on "Take the VST Certification Test."

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DID YOU KNOW?

- Boston XO™ is now available in 17mm diameter buttons. These are available in ice-blue and clear.

- All Boston materials may now be ordered with fenestrations, and custom configurations are available upon request.

See page 5 for details.

Boston ENVISION®

Boston MultiVision

- Boston® Envision® and Boston MultiVision® preforms can be made to order from any Boston material, in any tint, in expanded base curve ranges.

See page 7 for details.

continued from page 1

When first exposed to the 5S's, most people equate it to simply "cleaning up" the workplace. This assumption greatly underestimates the power of an effective 5S program. All successful organizations that have embraced the LEAN manufacturing philosophy have begun with a structured 5S program. An effective 5S program serves as the foundation upon which an organization can layer additional, more complex LEAN tools, and drive continual improvement across all areas of the business: customer value, product quality, reduced cost, and job satisfaction.

Sort

This principle is straightforward and should always be performed first. The goal is to identify items that are needed on a regular basis in order to complete a specific task. All other items should be removed from the immediate work area and either discarded (if they are no longer used) or stored elsewhere if they are used infrequently. As a general rule, only items that are used every day should be stored in the immediate work area.

Is your work area cluttered? Most organizations have a "pack-rat" mentality and store excess items, equipment, tools, materials, etc. just in case they might be needed sometime in the future. These items can accumulate over time, taking up valuable floor space and making it difficult for employees to find the items they actually need. At the Bausch & Lomb Wilmington Facility, we were no different than any other organization in this regard. However, once we "sorted" our entire facility, materials and equipment we had accumulated over time that was no longer needed. We then removed and disposed of the various items, resulting not only in an uncluttered work area but also freeing up an entire laboratory for future expansion.

Simplify

The goal in this step is to improve the efficiency of your current workflow. This includes all the steps and motions employees take to perform their daily work tasks. Once an area has been sorted and the unnecessary items removed, the remaining items should be situated so that they are readily available and easily accessible to the employees who use them. We want to avoid having employees search for items they require to do their jobs and minimize the distance employees have to travel to get those items. This step also reduces the bending, lifting, reaching, etc. that employees may have to do as they go about their work tasks daily.

All successful organizations that have embraced the LEAN manufacturing philosophy have begun with a structured 5S program.

Sweep

Keep the workplace clean. While this step includes general housekeeping tasks such as cleaning floors, work surfaces, disposing of trash, etc., it also means inspecting equipment for abnormal conditions, signs of wear, or other warning signs that may eventually lead to equipment failure. This step is not just performed at the end of the workday, but regularly throughout the day as time permits.

Standardize

The objective during this step of the program is to ensure not only that work tasks are being performed correctly, but also that where multiple employees perform the same task, it is being performed consistently. The standards should be clear and made known to all employees. The key here is that every employee should be able to recognize whether they have performed their task correctly, and that on those occasions where a defect is created, it is never passed through to the next operation.

Standards are not limited to manufacturing operations. They apply equally to equipment maintenance, product flow, product/material quantities, cleaning practices, and administrative functions. Once you've standardized your operations, and made them known to all employees, anything out of place or not in

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compliance will be immediately noticed.

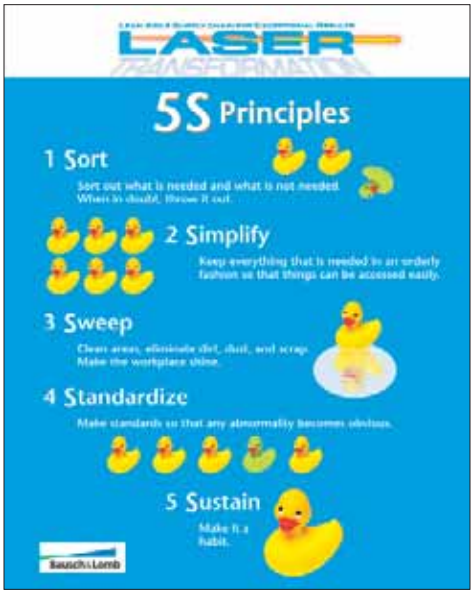
Sustain

This is the most difficult step of the 5S program. How does an organization sustain the gains made through implementing the first four steps? How does a company avoid the pitfall of thinking the 5S program is nothing more than a short-term project?

There are two keys to sustaining the program, training and commitment. All employees need to be properly trained in Visual Management techniques, the 5S program, and your work standards. Managers and supervisors must be committed to the program's success and work to make it a part of your organization's culture.

At the Bausch & Lomb Wilmington Facility, we've been committed to the 5S program for almost two years. While we still have opportunities to do more, we are slowly integrating the 5S mentality throughout our organization. All of our employees are actively involved in the program, and through their efforts we've created a better work environment for all of us.

If you'd like to learn more about the 5S program and how we could help introduce it to your organization, please feel free to contact me directly at + 978-694-1229 or email me at ken_harty@bausch.com.



Ortho-k Enthusiasts Get Certified (and iPods) at GOS III

Figure 1. Certification sessions at GOS III

Figure 2

Ortho-k fitters from 31 countries assembled in Chicago (USA) from July 28 to 30 to attend the Third Annual Global Orthokeratology Symposium (GOS). There was a great turnout for what has fast become the leading global meeting for Gas Permeable (GP) fitters, lens designers, and manufacturers. Bausch & Lomb used the occasion to offer certification courses for its Vision Shaping Treatment (VST™) system available in North America. VST encompasses different Ortho-k/Corneal Reshaping designs that give fitters the option of fitting either empirically, diagnostically, or using topographical data. The VST-approved ortho-k designs for overnight orthokeratology are: ***BE Retainer, Contex OK E-System, DreamLens, and Emerald.***

What was unique about the VST certification sessions was that all four design programs were presented simultaneously, in the same room, using headphones keyed to a specific closed circuit presentation (Figures 1 and 2).

Practitioners had to choose one design to become certified in. They viewed the presentation on large screens, listened through wireless headsets, and answered questions in their test booklets on the design, fitting, evaluation, and patient follow-up for that design.

Over the course of two certification sessions that were offered during the Symposium, 172 practitioners certified in at least one of the VST-approved designs. Many practitioners took advantage of the second session to certify in another design.

Each practitioner who passed the certification test was rewarded with a USB Mass Storage Device (also known as a Flash or Jump Drive) and the chance to win an Apple iPod digital music player. Each USB Mass Storage Device was pre-programmed to reveal if it was a "winner" or not when inserted into the computer at the Bausch & Lomb/Boston booth (Figures 3 and 4). In all, 21 fitters left the booth holding new iPods.

Figure 3. Jonathan Jacobson (Director Global GP Business) looks on as VST certificants wait to see if they are iPod winners.

Figure 4. Charles Di Natale (Region Manager, Pacific) (right) presents Soo Jin OD, Sydney, Australia, with one of the iPod digital music players won in the electronic drawing following the VST Design Certification sessions.

continued from page 1

3. Choose the VST-Approved Design for which you wish to certify (Figure 2).
4. Click on ***Training Supplement*** to review online or print (Figure 3).
5. Click on ***Certification Test and Answer Sheet*** to open and print (Figure 4).
6. ***Completely*** fill in the Exam Answer Sheet practice information (Figure 5).
7. Click to open the ***Narrated Certification Program*** (the program will begin and run automatically). Navigation buttons permit pausing, moving forward and backward (Figure 6).
8. Answer the test questions by filling in the circle matching your answer choice on the Answer Sheet.
9. When completed, please fax the sheet to the number shown at the bottom of the answer sheet (Figure 7).

Figure 2. VST-approved designs

Figure 3. Sample Training Supplement booklet

Figure 4. Sample Certification Test booklet

Figure 5. Enter your complete information on Exam Answer Sheet.

Figure 6. Sample Narrated Certification Program opening screen showing navigation buttons

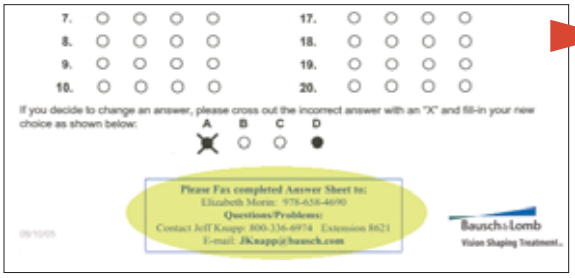


Figure 7. Be sure to fax your completed answer sheet to the number indicated.

10. That's it. You will receive an e-mail notification of your test results within a few days.

Assuming you passed the certification test (most people do), you will be issued a VST ID number. You will receive by mail a framed VST Fitter Certificate and valuable in-office materials to get you started (Figure 8). For a limited time, new certificants will receive a 64 MB USB Mass Storage Device ("flash" or "jump" drive) for certifying online (Figure 9). We look forward to adding you to the list! Go to www.bausch.com/vst.

New Products – New Options from Boston®

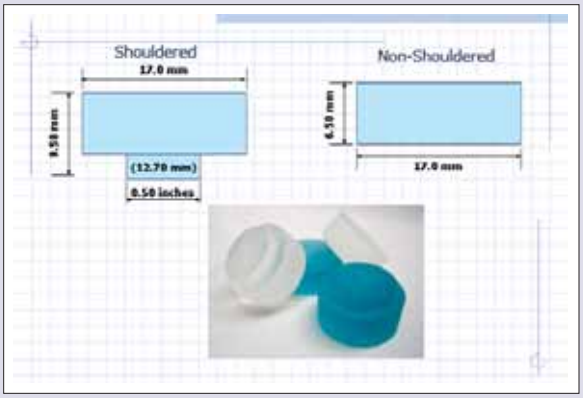


Figure 1. Mini-haptic buttons specifications

MINI-HAPTIC BOSTON XO™ BUTTONS AVAILABLE

The growing interest in large-diameter GP lenses has been further sparked by the growth of orthokeratology. Large-diameter GP lenses, which have minimal movement and edges held under the upper eyelid, may increase wearer comfort. More and more laboratories and practitioners are becoming interested in fitting large-diameter GP designs for a myriad of reasons including:

- Keratoconus
- GP lens adaptation
- Where GP lens comfort is essential

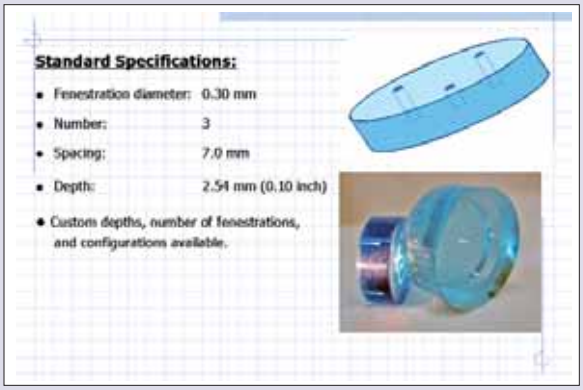


Figure 2. Fenestrated button specifications

To address this growing interest, we are pleased to announce the availability of 17.0 mm diameter buttons made in Boston XO™ (hexafocon A) GP material with a Dk of 100 (ISO/Fatt).

These buttons are available in two colors (Clear and Ice Blue) and also available in "shouldered" and "non-shouldered" versions (Figure 1).

BOSTON GP MATERIAL BUTTONS NOW AVAILABLE WITH FENESTRATIONS

The use of large diameter GP contact lenses has reinvigorated a forgotten manufacturing/design technique from the bygone era of PMMA fitting…fenestration. What was once a technique for attempting to deliver more oxygen to the cornea during PMMA lens wear, is now being used as a means to increase tear exchange and/or to prevent lens binding[1, 2].

Fenestrations have been used in rigid lens fitting for some time to reduce lens binding in overnight orthokeratology lens wear, to increase tear exchange in scleral and apical clearance lens fits[1, 2]. These techniques are once again a valid means to remedy or avoid some fitting problems with large-diameter GP lenses.

Fenestrations have typically been done on the finished lens. With the availability of highly specialized and accurate drills, we are now able to provide pre-fenestrated buttons in any Boston GP lens material, including the new 17.0 mm diameter "shouldered" and "non-shouldered" Boston XO™ GP buttons. The standard fenestration configuration is three fenestrations of 0.30 mm diameter placed in a 7.0 mm circle around the center of the lens button (Figure 2). However, custom fenestration configurations are available upon request. Options for custom fenestrations are: number of fenestrations, location of fenestrations, and diameter of fenestrations.

For further information contact your Authorized Boston Manufacturer or Boston Representative.

1. Visser, Ester-Simone, "Advanced Contact Lens Fitting, Part Five, Scleral Contact Lenses Clinical Indications", Continuing Education Supplement to *The Optician*, sponsored by Bausch & Lomb, Dec. 1997, No. 5630, Vol. 214.

2. Swarbrick, Hiew, Kee, Peterson, Tahhan, "Apical Clearance Rigid Contact Lenses Induce Corneal Steepening" *Optom. Vis Sci.* 2004, 81 (6) 477-435.

Figure 8. Sample VST Fitter Certificate

Figure 9. 64 MB USB jump drives for new certificants

GP Auto-Fitting Moving Closer to Becoming Reality

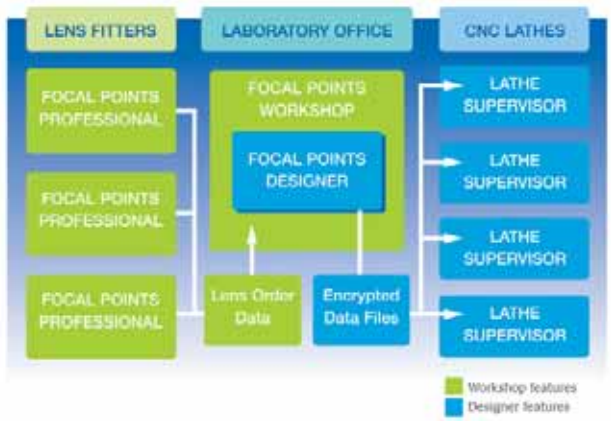


Figure 1. Focal Points Professional: Electronic order information flows from lens fitter to lens production at lab.

In recent ***Boston Update*** Newsletters, we have covered advances in the technology of fitting GP lenses using topographical data and computer software. In this article, we will explain how the system works and describe some potential advantages of the system.

The process starts by inputting topographical data into a computer. The next step is choosing an appropriate design. This can be done either automatically by the software or manually by the practitioner.

With the patient data keyed in, the topography imported, and a design chosen, the program presents a simulated fluorescein pattern of the lens on the eye. The practitioner can either accept the lens as shown or manipulate the fit of the lens. For example: if a practitioner chooses the Boston Envision design, base curves and diameter can be adjusted on the screen until an acceptable simulated fit is achieved. Eccentricities and clearances cannot however be altered in fixed parameter designs. Once the optimal fit is chosen, a click of a button immediately sends the patient lens order electronically to the lab (Figure 1).

An exciting potential of this new technology is in fitting corneas using clearances and tear layer thickness, rather than radii and zones widths. This is referred to as "adaptive" fitting. Using this approach, the limitations imposed by fixed parameters are removed, resulting in lenses that are truly custom designed for each eye (Figures 2a and 2b).

It is important to note that once you have obtained a good quality topographical map, the patient is not required to be present while the lens is being designed. This allows the practitioner to design and order the lens at a time and place that is the most convenient for the fitter. With e-mail and an Internet connection, a fitter could virtually fit and order lenses from office, home, or from across the world. Because this fitting system is topography based, the first time the patient tries on their new GP lens is when they are called in for the dispensing visit. Assuming we can get the "auto fitted" fitting success rate high enough, this could greatly reduce chair time and patient inconvenience.

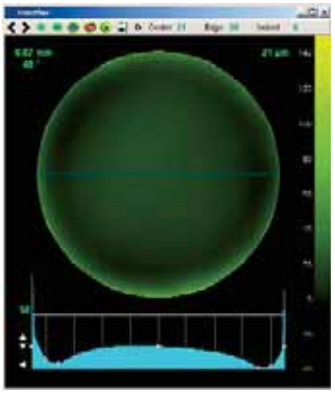


Figure 2a. 20 µm center clearance, 50 µm radial edge lift

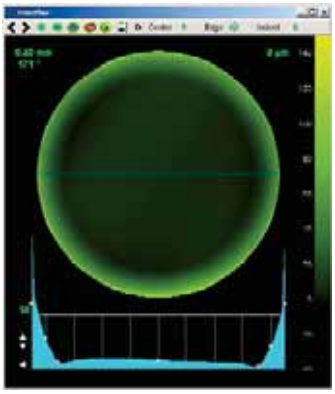


Figure 2b. 9 µm center clearance, 60 µm radial edge lift

THE CRITICAL LINK BETWEEN LAB AND FITTER

Creating an electronic link between the fitter and the lab has many benefits. First, the patient order is reviewed by the lab consultant on his/her screen, and then sent electronically to the lathe. This eliminates the chance that any lens data is misread or miswritten. It also ensures that the lens design submitted can safely be produced on the lab's equipment.

Second, this direct communication provides opportunities for answering questions and for fitting consultation in real time or after hours. Topography, digital photos, and even video can be sent to the lab for fitting consultation on complicated fits.

Third, the practitioner's office is kept up to date with new GP lens designs from the lab as well as revisions to current designs. Price lists for ordering lenses, solutions, and accessories are all updated automatically. This information is exchanged in the background whenever the fitter's computer connects to the lab server.

ARE WE THERE YET?

A significant step was taken toward this concept becoming reality at the Third Global Orthokeratology Symposium (GOS III) held in Chicago this past July. It was there that the Focal Points Professional (FPP) lens design and fitting system was demonstrated for the first time to contact lens fitters. During exhibit hours, volunteer patients had their corneal topographies measured, lenses designed automatically, and the data sent electronically to the manufacturing lab for production.

Figure 3. Stephen Byrnes OD demonstrates auto-fitting at GOS III, July, 2005.

The lenses were then dispensed and the actual fit evaluated and compared to the virtual fit.

The demonstration was conducted by Stephen Byrnes OD, FAAO from Londonderry, NH. Dr. Byrnes is in private practice and an avid proponent of GP lenses. He is also an optometric educator, and a clinical consultant for Bausch & Lomb (Figure 3).

Figure 4. Dr. Stephen Byrnes auto-fitting a volunteer patient at GOS III.

In Figure 4, a volunteer patient presenting with 5.50 diopters corneal astigmatism was successfully fit (using only lens clearances) from topography using an adaptive bi-toric GP lens design resident in the Focal Points Professional Program. In total, some 18 patients were fit during the conference with a high degree of success. There are some issues that still need to be worked out, but the experience and outcomes were highly encouraging.

In-practice testing of the Focal Points Professional System is underway at a high-volume GP lens practice. Results to date have shown that not only can GP lenses be designed and virtually fit with a high degree of accuracy, but that the process saves valuable time for both the practitioner and for the patient.

Whether this system is used to fit the final GP lens or used to "propose" the initial custom-made trial lens, auto-fit systems are the wave of the future, and the future may not be too far away.

Expanded Availability for Boston® Envision® and Boston MultiVision®

We are pleased to announce that Boston Envision and Boston MultiVision aspheric designs are now available to Authorized Labs in any Boston GP material, in all available tints. Additionally, the base curve ranges for both designs have been expanded to allow practitioners to fit an even wider group of corneal curvatures.

The expanded base curve range for Boston Envision is now **6.50 mm to 8.50 mm in 0.10 mm increments.** This will allow patients with flat "K" readings of 38.25D to 53.75D to be fitted. The diameter range for Envision remains the same at 9.30 mm to 10.30 mm.

The expanded base curve range for Boston MultiVision is now **6.80 mm to 8.50 mm in 0.10 mm increments.** This will allow for fitting flat corneal readings from 38.50D to 49.25D. The nominal add (near) power is +1.50D and the diameter remains the same at 9.60 mm.

Contact your Authorized Boston Lens Manufacturer or Boston representative for more information. Revised fitting information and charts will be available shortly.

Optometry in New Zealand

Interested in what is happening with optometry in another part of the world? Here is your chance to find out.

In Contact is an online newsletter by Dr. Alan Saks, clinician and publisher of ***New Zealand Optics***, a trade journal for the country's optical industry.

Dr. Saks is a partner in the Barry and Beale Optometry Group in Auckland, New Zealand, and is a keen contact lens advocate and lecturer (especially on GP specialty lenses). As such, Dr. Saks has his finger on the pulse of happenings locally both from the business and practice aspects.

Besides being a very informative web site, ***In Contact*** is also an easy and enjoyable read. The author freely shares his views on the industry, optometry, and life in general, with few apologies. Online issues are archived on the web site as far back as 1998.

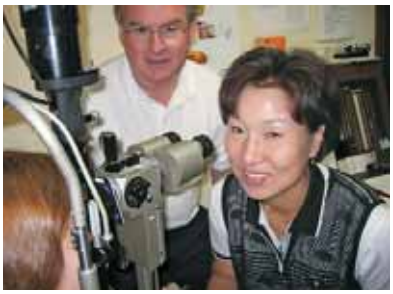
To read the latest ***In Contact***, go to: www.nzoptics.co.nz/incontact.htm

Around & About

Boston® Informational, Educational, and Marketing Events

Joann Simonsen (Euclid Systems, Inc.) talks with an interested practitioner at the Emerald Booth at the Global Orthokeratology Symposium (GOS III).

Nick Stoyan (right) and Steve Ernst (second from left) of Contex with practitioners at their booth at GOS III.



Professor In-Suk Kim (right) of Chodang University School of Optometry in Seoul, South Korea visits Dr. Stephen Byrnes' office in Londonderry NH to observe GP lens fitting during her visit to the Bausch & Lomb facility in Wilmington. Dr. Kim spent three weeks learning GP lens design, fitting, and observing GP manufacturing, finishing, and inspection techniques.

Harve Sturgess (Director of Sales/Precision Technology) guides a hands-on demonstration of the Medmont topographer at the BE Retainer Booth at GOS III.

(Left to right) Michelle Mulligan (DreamLens, Inc.), David Davis (Kibbutz Hanita, Israel), Dr. Tom Reim (DreamLens, Inc.), and Derek van der Spek (Procornea, Netherlands) at the DreamLens Booth at GOS III.

Mr. Craig Norman addresses the Association of Private Professional Optometrists in Hong Kong as part of the Boston Seminars 2005 lecture tour sponsored by Boston/Bausch & Lomb. Lectures in each city were sponsored by Boston Authorized Manufacturers. Included in the tour were lectures in Beijing (Autek), Wuhan (Autek), Chengdu (E&E Asia), Guangzhou (E&E Asia), and Hong Kong (Oculus Ltd).

EVENTS CALENDAR

NOVEMBER

3–5	CLMA Las Vegas, Nevada USA
12–13	VISION CANADA Montreal, Canada

DECEMBER

8–11	AMERICAN ACADEMY OF OPTOMETRY (AAO) San Diego, California USA

JANUARY

11–14	CONTACT LENS & EYECARE SYMPOSIUM Orlando, Florida USA
13–15	Opti-Munich Munich, Germany

FEBRUARY

22-26	SECO International 2006 Atlanta, Georgia USA

MARCH

31–April 2	International Vision Expo East New York, New York, USA

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