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Second IOMED program for ODs at ASCRS meeting

This year's symposium similar to 2013

By **Gretchyn M. Bailey, NCLC, FAAO**
Editor in Chief, Content Channel Director

Next month in Boston, the American Society of Refractive Surgery (ASCRS) will host optometrists at its second Integrated Ophthalmic Managed Delivery Model (IOMED) track at the group's annual meeting. The format will be similar to last year's meeting with a half-day symposium as

well as courses that will be available for optometrists to earn CE credit.

What won't change is the categories of optometrists who are welcome to come. Currently, private-practice ODs are not permitted to attend. (See "Certain ODs welcome to participate in new ASCRS integrated program," February 2013, and "ASCRS welcomes ODs during IOMED program,"

May 2013.)

Following last year's IOMED program, members of the ASCRS IOMED task force met with a group of optometrists unhappy with the private-practice optometry restriction in the hopes of effecting change to this year's program.

"It was extremely disappointing to all of us after the great meeting we had in San Francisco that they didn't open the meeting," says Birmingham, AL optometrist Jack L. Schaeffer and *Optometry Times* Editorial Advisory Board member. "We were hoping that they would open the Boston meeting to all optometrists. We gave them latitude to make some concessions for them to live by their motto of improving patient care. You can't get credit for going to all courses. No one should restrict education. If the goal is to help the public get better eye care, why would anyone restrict who goes to a lecture? Why would you not want to educate an optometrist who you accept patients from? It's about public welfare."

IOMED task force Chairperson Stephen S. Lane, MD, of St. Paul, MN, says that following the meeting with concerned optometrists at last year's ASCRS meeting, the ASCRS board met to consider the proposal to open the meeting to a greater attendance. "While there was a lot of support on the board for such a move, the board's consensus was to ensure the IOMED program is

See **ASCRS** on page 5

Why has Demodex gone viral?

This clinical presentation has been the talk of the profession

By **Gretchyn M. Bailey, NCLC, FAAO**
Editor in Chief, Content Channel Director

Although the Demodex mite is not a recent discovery, you might not realize that by the rapid rise of Demodex in the ophthalmic professional sphere. From peer-reviewed journal articles to lectures at professional meetings to chatter on the exhibit hall floor to thought-leader informational videos, Demodex has been a popular topic for the past 12-18 months.

In the spirit of full disclosure, I acknowledge that *Optometry Times* has played a role by adding content to the mix. We deployed a series of 5 OD expert videos (see box) and published several articles on Demodex, with likely more to come.

Going viral

So why did Demodex become a clinical hot topic? *Optometry Times* Associate Optometric Editor Katherine M. Mastrota, OD, FAAO, says one reason might be the desire to solve a clinical problem. "Part of it is the quest for the cure for

blepharitis and dry eye—we all are searching for the magic bullet. Everyone has a gizmo or drop or treatment for something within the unknown," she says. "Then you have these critters. Is 'curing' Demodex the holy grail of ocular surface disease and dry eye? We have a diagnosis and possible treatment that piqued everyone's interest. Identifying Demodex is concrete, like lid wiper epitheliopathy, in those cases with symptoms but no clinical signs. We have a visual indication of a diagnosis. In both cases we don't see it until someone shows us how to see it."

For something to go viral, says Scheffer Tseng, MD, you need to reach a critical mass

See **Demodex** on page 5

VIDEO SERIES



Importance of Demodex

Dr. Kathy Mastrota

<http://ow.ly/ucpRT>



Diagnosing Demodex

Dr. Scott Hauswirth

<http://ow.ly/ucpWj>



Treating Demodex

Dr. Scott Schachter

<http://ow.ly/ucSuM>



Practice management

Dr. Mario Gutierrez

<http://ow.ly/udSDJ>



Overview of Demodex

Dr. Milton Hom

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SEE PAGE 24

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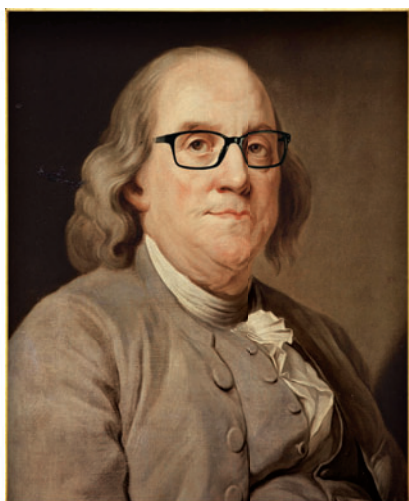
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In partnership with our readers, we will achieve mutual success by:

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ASCRS

Continued from page 1

on the right path,” he says.

The ASCRS board will continue to revisit the idea of opening attendance to all optometrists. Any decision to change attendance criteria will be based on the outcome of this year’s meeting.

“The opportunity is there to expand it, especially if there is the desire on the part of the optometrists,” says Dr. Lane. “There continues to be positive feedback. We’re ahead of last year in terms of optometrist preregistration already. People speak with their feet. If there is an increase in the number of optometrists who attend, that’s a vote of confidence on the part of optometry to ASCRS that they like coming to the meeting, they would like to expand it to their brethren who don’t

fit into these categories. If the numbers decrease, then it doesn’t make a lot of sense to expand who we would allow to come. The numbers speak to the success of what we’re trying to do. It’s a vote of confidence that the board of ASCRS would like to see before we go about expanding on it.”

Last year’s symposium focused on the business of optometry and ophthalmology, clinical cases, and new technology. This year’s symposium will highlight:

- Advanced technology (AT) IOLs, including management of patients with AT IOLs, how to choose good AT IOL candidates, and complications with AT IOLs
- Business, including how to compensate optometrists and the roles of optometrists in integrated models
- Clinical cases panel, back again due to popularity of last year’s discussion. **ODT**

Demodex

Continued from page 1

and a tipping point. “The evidence has to accumulate, and it has from 2005 until about a year ago,” he says. “Key opinion leaders begin to take the first move to see if they agree with the findings in the literature. Dr. Milton Hom has significantly contributed to the field by saying he’s seen enough evidence, has his own personal experience, and is now willing to share with others. That has created the viral effect.” Dr. Tseng serves as research director of Ocular Surface Foundation, director of research and development of TissueTech, Inc., medical director of Bio-Tissue, Inc., and director of research and development of Bio-Lipid, Inc.

Optometry Times Editorial Advisory Board member Joseph P. Shovlin, OD, FAAO, expresses surprise at what he calls “mass hysteria” because some practitioners have described Demodex as a niche phenomenon. “When something is being discussed, mass hysteria occurs when people may not have been aware of what has transpired in the past,” he says. “People have been discussing Demodex for the past century, this is nothing new. What is new is making the connection that this parasite has the ability to be a proxy for bacteria. Most people are missing that.”

Phoenix, AZ, OD Art Epstein says there are two reasons why this clinical presentation became a hot topic so quickly. “First, there is commercial support for it,” he says. “There are products that specifically target Demodex, especially with smaller companies which aren’t dealing with regulatory burdens. Second, ev-

eryone is looking for the next big thing. Communication these days is much faster than it’s ever been, it’s almost viral. Something that is seen in California is a hot topic in New York almost instantaneously. A fevered frenzy about an infrequent pathogen tends to distract from the real issues that actually cause problems. It’s like many other things. Why do we see hula hoops become a craze in the ‘60s? Why do people become interested in chewing gum? Yo-yos were a craze. People tend to do what other people do.”

Today’s technology has played a major role in allowing Demodex to move to the forefront, according to *Optometry Times* Editorial Advisory Board member Milton M. Hom, OD, FAAO. Practitioners have smartphones to take video of the mites and text and e-mail colleagues. More affordable LED microscopes allow more practitioners to use such equipment. So knowledge of the mite may have been around for a long time, but the technology to study it has not.

“Call it mass hysteria, the next big thing, whatever you want,” says Dr. Hom. “The truth is, the more awareness we have, the better we are able to diagnose, treat and serve. After all, isn’t all about the patient?”

So is Demodex the next big thing? Says San Antonio, TX, OD Mario Gutierrez: “It’s not the next big thing. It’s a thing. It went viral because some heavy hitters in optometry took the ball and ran with it. Demodex infestation needs to be treated. All blepharitis patients deserve to be treated. Infested patients need to be treated in a different way. It’s a cool thing. We can really help our patients who have this condition. I think it’s important, but it’s not glaucoma or AMD.” **ODT**

In Brief

UAB names Kelly K. Nichols new dean of optometry school

Birmingham, AL—Kelly K. Nichols, OD, MPH, PhD, FAAO, has been named dean of the University of Alabama at Birmingham School of Optometry. Dr. Nichols will assume her new role June 25.

“It is an honor and a privilege to be selected as dean of the UAB School of Optometry,” Dr. Nichols said. “I look forward to working together with Provost Lucas and the talented and dedicated faculty to continue the tradition of clinical and research excellence.”

Dr. Nichols comes to UAB from the University of Houston (UH), where she served as a professor since 2011. While at UH, Dr. Nichols co-founded and served as the executive director for The Ocular Surface Institute, a translational research institute focused on bench-to-bedside research on ocular surface conditions. Prior to joining the faculty at UH, Nichols was a faculty member at The Ohio State University College of Optometry from 2000-2011.

Dr. Nichols received her Doctor of Optometry degree from the University of California at Berkeley, completed a residency in ocular disease at a tertiary referral medical center in Colorado, and earned her MPH in biostatistics and PhD in vision science at The Ohio State University.

Dr. Nichols has been involved in professional organizations including the American Optometric Association and the American Academy of Optometry. She serves as a medical adviser to the Sjögren’s Syndrome Foundation and is an executive board member for the Tear Film and Ocular Surface Society and a founding member of Ocular Surface Society of Optometry. She has served as grant reviewer for the National Institutes of Health and the Veterans Association, and is on the editorial boards of the journals *Optometry and Vision Science* and *The Ocular Surface*.

Dr. Nichols’s research interests include dry eye, meibomian gland dysfunction, blepharitis, inflammation, impact of menopause on dry eye, dry eye diagnostics and therapeutics, tear proteomics and lipidomics, and quality of life. Her research funding has been primarily through the National Eye Institute of the NIH, in addition to a variety of industry partners. **ODT**

Google Glass: The next frontier?



**Ernest L. Bowling, OD,
FAAO,**
Chief Optometric Editor

I readily admit I am from another time, before cell phones and laptops. But not video games. I wore Pong out back in the day. Still, I think I have adapted reasonably well as an old curmudgeon to the available technology. We have been using iPad EMRs in the office for over a year now, and the person who still has the hardest time with the system is me!

Having recently purchased a MacBook Pro to go along with my iPhone and iPad, I feel my conversion to the dark side is complete. I am nowhere near as tech savvy as my children, who were practically raised with the devices, glide easily across the various platforms, and make use of all forms of social media. Patients these days are also quite comfortable integrating these technologies into their daily lives. Now comes along a new device that has the potential to impact my practice yet again.

Google Glass has been in testing since April 2013.¹ I'm sure we've all heard of the frame-

mounted computer display and probably thought it was a neat device and dismissed it as yet another tech toy. The recent agreement between Google Glass and VSP to offer subsidized frames and prescription lenses² will open up the technology to a whole new consumer base. The question I—and I'm willing to bet a lot of my colleagues—am asking is, "Will this agreement drive VSP patients to my office seeking Google Glass, or is it strictly a niche market for the techno geeks?"

I'm not willing to dismiss this technology as for only a select few. Partnering with VSP, the nation's largest optical health insurance provider, is one reason. Another is there are products similar to Google Glass coming down the pipeline. Smartspecks³ by LaForge Optical, Jet⁴ by Recon, and GlassUp⁵ are just a few of the products under development that merge eye wear and computer applications. While all these products leave something to be desired, whether it be fashion or functionality, remember these are only the initial products which will surely undergo multiple revisions. In years to come, frame-mounted computer displays may be just as invaluable to our patients as their smart phones. Much as our profession has changed over time to

better serve our patients, it seems spectacles are similarly undergoing a metamorphosis to serve more than one function. The question becomes, "Do we want to be in front of the curve or behind it?" **ODT**

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Transitioning into the retail arena



**Gretchyn M. Bailey, NCLC,
FAAO,**
Editor in Chief, Content Channel
Director

Except for a 6-month stint at an optical more than 20 years ago, I haven't spent much time in that part of the industry. It's time I did. Plus, we're going to step up coverage in our pages and online presence as well. I hope you've already noticed the new look of our InDispensable news and product section.

With this in mind, I was pleased to attend Transitions Optical's Transitions Academy a few weeks ago. In addition to learning more about the company's technology, I was able to network with optometrists, opticians, and ancillary staff who were more knowledgeable than me. I had some great conversations, and I'm already working with some of these informed folks to bring you great content.

Courses specific to optometrists at Transitions Academy included increasing second-pair sales, doctor-driven dispensing, and the healthy aging eye. Two of the three sessions were presented by a doctor and optician team. I got more out of these sessions, which were more compelling, and I enjoyed seeing discussion from both perspectives. It got me thinking on how *Optometry Times* can better present information to you.

As I ponder and plan our upcoming retail and dispensing content, I want to hear from you. Do you want to hear how Dr. Smith increases second pairs in her practice, for example? Would the science behind why coatings or lenses work in certain populations interest you? Something else?

As always, we want to bring you information that helps you better your practice and patient care. Drop me a line about what content you'd like to see: gbailey@advanstar.com. **ODT**

MY FAVORITE APP

Hotel Tonight

I like Hotel Tonight for locating a place to stay. The app allows you to access special deals that become available after 12 noon on the day you are interested in staying at that hotel. It is useful for last-minute deals; it's not for those who need to have a reservation well in advance, such as for meetings where space is limited. If you are flexible and want to save money, this can be a useful app.
—**Sherry Bass, OD, FAAO**
New York City



For allergic conjunctivitis¹

THE POWER TO CALM THE ITCH



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INDICATION AND USAGE

BEPREVE® (bepotastine besilate ophthalmic solution) 1.5% is a histamine H₁ receptor antagonist indicated for the treatment of itching associated with signs and symptoms of allergic conjunctivitis.

IMPORTANT RISK INFORMATION

BEPREVE® is contraindicated in patients with a history of hypersensitivity reactions to bepotastine or any of the other ingredients. BEPREVE® is for topical ophthalmic use only. To minimize risk of contamination, do not touch the dropper tip to any surface. Keep the bottle closed when not in use. BEPREVE® should not be used to treat contact lens-related irritation. Remove contact lenses prior to instillation of BEPREVE®.

The most common adverse reaction occurring in approximately 25% of patients was a mild taste following instillation. Other adverse reactions occurring in 2%-5% of patients were eye irritation, headache, and nasopharyngitis.

**Please see the accompanying prescribing information
for BEPREVE® on the following page.**

Reference: 1. BEPREVE [package insert]. Tampa, FL: Bausch + Lomb, Inc; 2012.

BAUSCH + LOMB

For product-related questions and concerns, call 1-800-323-0000 or visit www.bepreve.com.

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BEPREVE®
(bepotastine besilate
ophthalmic solution) 1.5%

BEPREVE® (bepotastine besilate ophthalmic solution) 1.5%

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use BEPREVE® (bepotastine besilate ophthalmic solution) 1.5% safely and effectively. See full prescribing information for BEPREVE®.

BEPREVE® (bepotastine besilate ophthalmic solution) 1.5%

Initial U.S. Approval: 2009

RECENT MAJOR CHANGES

Contraindications (4) 06/2012

INDICATIONS AND USAGE

BEPREVE® is a histamine H1 receptor antagonist indicated for the treatment of itching associated with allergic conjunctivitis. (1)

DOSAGE AND ADMINISTRATION

Instill one drop into the affected eye(s) twice a day (BID). (2)

DOSAGE FORMS AND STRENGTHS

Solution containing bepotastine besilate, 1.5%. (3)

CONTRAINDICATIONS

Hypersensitivity to any component of this product. (4)

WARNINGS AND PRECAUTIONS

- To minimize the risk of contamination, do not touch dropper tip to any surface. Keep bottle tightly closed when not in use. (5.1)
- BEPREVE should not be used to treat contact lens-related irritation. (5.2)
- Remove contact lenses prior to instillation of BEPREVE. (5.2)

ADVERSE REACTIONS

The most common adverse reaction occurring in approximately 25% of patients was a mild taste following instillation. Other adverse reactions which occurred in 2-5% of subjects were eye irritation, headache, and nasopharyngitis. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Bausch & Lomb Incorporated, at 1-800-323-0000, or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

See 17 for PATIENT COUNSELING INFORMATION

Revised: 10/2012

FULL PRESCRIBING INFORMATION: CONTENTS*

1 INDICATIONS AND USAGE

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- Contact Lens Use
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8 USE IN SPECIFIC POPULATIONS

- Pregnancy
- Nursing Mothers
- Pediatric Use
- Geriatric Use

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

BEPREVE® (bepotastine besilate ophthalmic solution) 1.5% is a histamine H₁ receptor antagonist indicated for the treatment of itching associated with signs and symptoms of allergic conjunctivitis.

2 DOSAGE AND ADMINISTRATION

Instill one drop of BEPREVE into the affected eye(s) twice a day (BID).

3 DOSAGE FORMS AND STRENGTHS

Topical ophthalmic solution containing bepotastine besilate 1.5%.

4 CONTRAINDICATIONS

Bepreve is contraindicated in patients with a history of hypersensitivity reactions to bepotastine or any of the other ingredients [see *Adverse Reactions* (6.2)].

5 WARNINGS AND PRECAUTIONS

5.1 Contamination of Tip and Solution

To minimize contaminating the dropper tip and solution, care should be taken not to touch the eyelids or surrounding areas with the dropper tip of the bottle. Keep bottle tightly closed when not in use.

5.2 Contact Lens Use

Patients should be advised not to wear a contact lens if their eye is red. BEPREVE should not be used to treat contact lens-related irritation.

BEPREVE should not be instilled while wearing contact lenses. Remove contact lenses prior to instillation of BEPREVE. The preservative in BEPREVE, benzalkonium chloride, may be absorbed by soft contact lenses. Lenses may be reinserted after 10 minutes following administration of BEPREVE.

5.3 Topical Ophthalmic Use Only

BEPREVE is for topical ophthalmic use only.

6 ADVERSE REACTIONS

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

The most common reported adverse reaction occurring in approximately 25% of subjects was a mild taste following instillation. Other adverse reactions occurring in 2-5% of subjects were eye irritation, headache, and nasopharyngitis.

6.2 Post Marketing Experience

Hypersensitivity reactions have been reported rarely during the post-marketing use of BEPREVE. Because these reactions are reported voluntarily from a population of unknown size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure. The hypersensitivity reactions include itching, body rash, and swelling of lips, tongue and/or throat.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Category C: Teratogenicity studies have been performed in animals. Bepotastine besilate was not found to be teratogenic in rats during organogenesis and fetal development at oral doses up to 200 mg/kg/day (representing a systemic concentration approximately 3,300 times that anticipated for topical ocular use in humans), but did show some potential for causing skeletal abnormalities at 1,000 mg/kg/day. There were no teratogenic effects seen in rabbits at oral doses up to 500 mg/kg/day given during organogenesis and fetal development (>13,000 times the dose in humans on a mg/kg basis). Evidence of infertility was seen in rats given oral bepotastine besilate 1,000 mg/kg/day; however, no evidence of infertility was observed in rats given 200 mg/kg/day (approximately 3,300 times the topical ocular use in humans). The concentration of radio-labeled bepotastine besilate was similar in fetal liver and maternal blood plasma following a single 3 mg/kg oral dose. The concentration in other fetal tissues was one-third to one-tenth the concentration in maternal blood plasma.

An increase in stillborns and decreased growth and development were observed in pups born from rats given oral doses of 1,000 mg/kg/day during perinatal and lactation periods. There were no observed effects in rats treated with 100 mg/kg/day.

There are no adequate and well-controlled studies of bepotastine besilate in pregnant

women. Because animal reproduction studies are not always predictive of human response, BEPREVE® (bepotastine besilate ophthalmic solution) 1.5% should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

8.3 Nursing Mothers

Following a single 3 mg/kg oral dose of radiolabeled bepotastine besilate to nursing rats 11 days after delivery, the maximum concentration of radioactivity in milk was 0.40 mcg-eq/mL 1 hour after administration; at 48 hours after administration the concentration was below detection limits. The milk concentration was higher than the maternal blood plasma concentration at each time of measurement.

It is not known if bepotastine besilate is excreted in human milk. Caution should be exercised when BEPREVE (bepotastine besilate ophthalmic solution) 1.5% is administered to a nursing woman.

8.4 Pediatric Use

Safety and efficacy of BEPREVE (bepotastine besilate ophthalmic solution) 1.5% have not been established in pediatric patients under 2 years of age. Efficacy in pediatric patients under 10 years of age was extrapolated from clinical trials conducted in pediatric patients greater than 10 years of age and from adults.

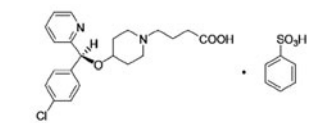
8.5 Geriatric Use

No overall difference in safety or effectiveness has been observed between elderly and younger patients.

11 DESCRIPTION

BEPREVE (bepotastine besilate ophthalmic solution) 1.5% is a sterile, topically administered drug for ophthalmic use. Each mL of BEPREVE contains 15 mg bepotastine besilate.

Bepotastine besilate is designated chemically as (+) -4-[[[(S)-p-chloro-alpha -2-pyridylbenzyl]oxy]-1-piperidine butyric acid monobenzenesulfonate. The chemical structure for bepotastine besilate is:



Bepotastine besilate is a white or pale yellowish crystalline powder. The molecular weight of bepotastine besilate is 547.06 daltons. BEPREVE® ophthalmic solution is supplied as a sterile, aqueous 1.5% solution, with a pH of 6.8. The osmolality of BEPREVE (bepotastine besilate ophthalmic solution) 1.5% is approximately 290 mOsm/kg.

Each mL of BEPREVE® (bepotastine besilate ophthalmic solution) 1.5% contains:

Active: Bepotastine besilate 15 mg (equivalent to 10.7 mg bepotastine)

Preservative: benzalkonium chloride 0.005%
Inactives: monobasic sodium phosphate dihydrate, sodium chloride, sodium hydroxide to adjust pH, and water for injection, USP.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Bepotastine is a topically active, direct H₁-receptor antagonist and an inhibitor of the release of histamine from mast cells.

12.3 Pharmacokinetics

Absorption: The extent of systemic exposure to bepotastine following topical ophthalmic administration of bepotastine besilate 1% and 1.5% ophthalmic solutions was evaluated in 12 healthy adults. Following one drop of 1% or 1.5% bepotastine besilate ophthalmic solution to both eyes four times daily (QID) for seven days, bepotastine plasma concentrations peaked at approximately one to two hours post-instillation. Maximum plasma concentration for the 1% and 1.5% strengths were 5.1 ± 2.5 ng/mL and 7.3 ± 1.9 ng/mL, respectively. Plasma concentration at 24 hours post-instillation were below the quantifiable limit (2 ng/mL) in 11/12 subjects in the two dose groups.

Distribution: The extent of protein binding of bepotastine is approximately 55% and independent of bepotastine concentration.

Metabolism: *In vitro* metabolism studies with human liver microsomes demonstrated that bepotastine is minimally metabolized by CYP450 isozymes.

In vitro studies demonstrated that bepotastine besilate does not inhibit the metabolism of various

cytochrome P450 substrate via inhibition of CYP3A4, CYP2C9, and CYP2C19. The effect of bepotastine besilate on the metabolism of substrates of CYP1A2, CYP2C8, CYP2D6 was not studied. Bepotastine besilate has a low potential for drug interaction via inhibition of CYP3A4, CYP2C9, and CYP2C19.

Excretion: The main route of elimination of bepotastine besilate is urinary excretion (with approximately 75-90% excreted unchanged in urine).

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis and Impairment of Fertility

Long-term dietary studies in mice and rats were conducted to evaluate the carcinogenic potential of bepotastine besilate. Bepotastine besilate did not significantly induce neoplasms in mice receiving a nominal dose of up to 200 mg/kg/day for 21 months or rats receiving a nominal dose of up to 97 mg/kg/day for 24 months. These dose levels represent systemic exposures approximating 350 and 200 times that achieved with human topical ocular use. The no observable adverse effect levels for bepotastine besilate based on nominal dose levels in carcinogenicity tests were 18.7 to 19.9 mg/kg/day in mice and 9.6 to 9.8 mg/kg/day in rats (representing exposure margins of approximately 60 and 20 times the systemic exposure anticipated for topical ocular use in humans).

There was no evidence of genotoxicity in the Ames test, in CHO cells (chromosome aberrations), in mouse hepatocytes (unscheduled DNA synthesis), or in the mouse micronucleus test.

When oral bepotastine was administered to male and female rats at doses up to 1,000 mg/kg/day, there was a slight reduction in fertility index and surviving fetuses. Infertility was not seen in rats given 200 mg/kg/day oral bepotastine besilate (approximately 3,300 times the systemic concentration anticipated for topical ocular use in humans).

14 CLINICAL STUDIES

Clinical efficacy was evaluated in 2 conjunctival allergen challenge (CAC) studies (237 patients). BEPREVE (bepotastine besilate ophthalmic solution) 1.5% was more effective than its vehicle for relieving ocular itching induced by an ocular allergen challenge, both at a CAC 15 minutes post-dosing and a CAC 8 hours post dosing of BEPREVE.

The safety of BEPREVE was evaluated in a randomized clinical study of 861 subjects over a period of 6 weeks.

16 HOW SUPPLIED/STORAGE AND HANDLING

BEPREVE® (bepotastine besilate ophthalmic solution) 1.5% is supplied in a white low density polyethylene plastic squeeze bottle with a white controlled dropper tip and a white polypropylene cap in the following size:

- 5 mL (NDC 24208-629-02)
- 10 mL (NDC 24208-629-01)

STORAGE

Store at 15° – 25°C (59° – 77°F).

17 PATIENT COUNSELING INFORMATION

17.1 Topical Ophthalmic Use Only

For topical ophthalmic administration only.

17.2 Sterility of Dropper Tip

Patients should be advised to not touch dropper tip to any surface, as this may contaminate the contents.

17.3 Concomitant Use of Contact Lenses

Patients should be advised not to wear a contact lens if their eye is red. Patients should be advised that BEPREVE should not be used to treat contact lens-related irritation.

Patients should also be advised to remove contact lenses prior to instillation of BEPREVE. The preservative in BEPREVE, benzalkonium chloride, may be absorbed by soft contact lenses. Lenses may be reinserted after 10 minutes following administration of BEPREVE.

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Letters

To the Editor

For the record

As one of the founding trustees of the newly formed American Association of Doctors of Optometry (AADO), I want to thank you for your excellent piece introducing our efforts, mission, and goals of helping deal with third-party payer issues ("New optometric association launched, October 2013). Briefly restated, "The mission of the American Association of Doctors of Optometry is to improve the quality of eye care in America by removing barriers to the delivery of optometric care and restoring competition among eye care providers." We hope to accomplish much as our membership continues to grow daily.

I take exception to, however, the quote in the last sentence by the American Optometric Association (AOA). It states: "In a statement, the AOA said: 'We are aware that some of the founders of the American Optometric Society are starting another organization and soliciting dues-paying members.'"

The statement is misleading and inaccurate. The American Optometric Society (AOS) was formed to protest the process of board certification. Firstly, if the AOA would have bothered to do a small amount of due diligence, they would know that nothing in the AADO's mission or goals has anything to do with board certification. To create this nexus as *their only comment* is simply misplaced and wrong. I, in fact, was one of the first group of optometrists to become board certified by the ABO. I spoke in favor of board certification on many social media sites and in fact was involved in the composition of the initial test! The AOA knew this, yet its only comment creates a nexus between two organizations that serves no purpose and does not exist. I would hope the AOA sees fit to offer an apology to me specifically and the AADO. All trustees of the AADO are, in

fact, members of the AOA and continue to support it in its efforts to improve and defend our profession

Steve Silberberg, OD
Matawan, NJ

Tip of the hat

I have finally joined the 21st century and downloaded the *Optometry Times* app for my iPad. I love it—makes reading *Optometry Times* much more convenient. I loved reading Dr. Bowling's Christmas wish list in the December issue ("My Christmas wish list, December 2013). I have very similar wishes. The Primary Care Section of the American Academy of Optometry really has some good momentum going, and we have some really good Diplomate candidates. Tip of the hat to you, Ernie, and the rest of the staff at *Optometry Times* for sponsoring our Diplomate Preparatory course in October. It's truly a pleasure to work with you and read your fine publication.

Hal Bohlman, OD, FFAO,
Diplomate (PC)
Mountain Home, TN

Digital devices, optometry, and increased nearpoint stress

I was pleased to see The Vision Council direct its attention to the problem of straining to meet the visual demands of computers, smartphones, and tablets ("Special Report: The Vision Council promotes digital eye strain precaution at CES," News Flash, January 24, 2013). Optometry has a rich tradition of working with people who perform near-centered tasks. We have been concerned with the effects of nearpoint stress since the late 1920s. Our vision exams have been geared to measuring the individual's response to the demands on accommodation, convergence, and tracking when performing reading and writing, as well as the use of digital devices and

reducing the strain produced.

The use of nearpoint lenses to reduce the strain mentioned in the article is something that optometry pioneered. Other practitioners do not realize the importance of using lenses not strictly to achieve the best clarity at all distances. To reduce the demand created by nearpoint work is not only a simple and effective concept, but in practice it has helped many people, in various walks of life, to perform at a much more effective level. Students from grade school through graduate school have also benefited from the use of prescription lenses to reduce stress.

This is not a new concept in our field. The colleges of optometry have had this type of teaching in their curriculum throughout the 20th century and continuing today. I applaud The Vision Council for trying to acquaint more optometrists with the benefits of near-centered lenses for the non-presbyope. In this way, the concepts that are part of our heritage can continue to help people. While emphasis has moved toward detection and treatment of eye disease, the gem that is optometry's own is the detection and treatment of nearpoint stress. Digital devices are just another form of increased demand on the visual system. Many practitioners throughout the United States, Canada, and the rest of the world have been educating their patients and providing eyewear to help counteract such nearpoint stress.

Barry Tannen, OD, FCOVD
Hamilton Square, NJ

Like something we published?
Hate something we published?
Have a suggestion?

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gbailey@advanstar.com.
Letters may be edited for length or clarity.

Maximum medical therapy in glaucoma

Sometimes three's a crowd

One of my glaucoma patients is a 66-year-old African-American female who got her first glasses from my grandfather (the original Dr. Casella) in the early 1950s. I began seeing her in 2008, and I'm hoping that, any day now, she'll start acting like she believes what I tell her about her prognosis if she doesn't use her drops on a regular basis. I have her on a prostaglandin at bedtime and a beta-blocker combination drop in the morning and afternoon (in an attempt to avoid beta-blocker effects during the night). We'll plug along for up to a year or so with reportedly good compliance and intraocular pressures (IOP) at target (which for her is 14-17 mm Hg OU). I check her pressures at different points in the day to try to get a feel for her diurnal fluctuation and feel as though she's pretty "flat" throughout the day.



By Benjamin P. Casella, OD, FAAO

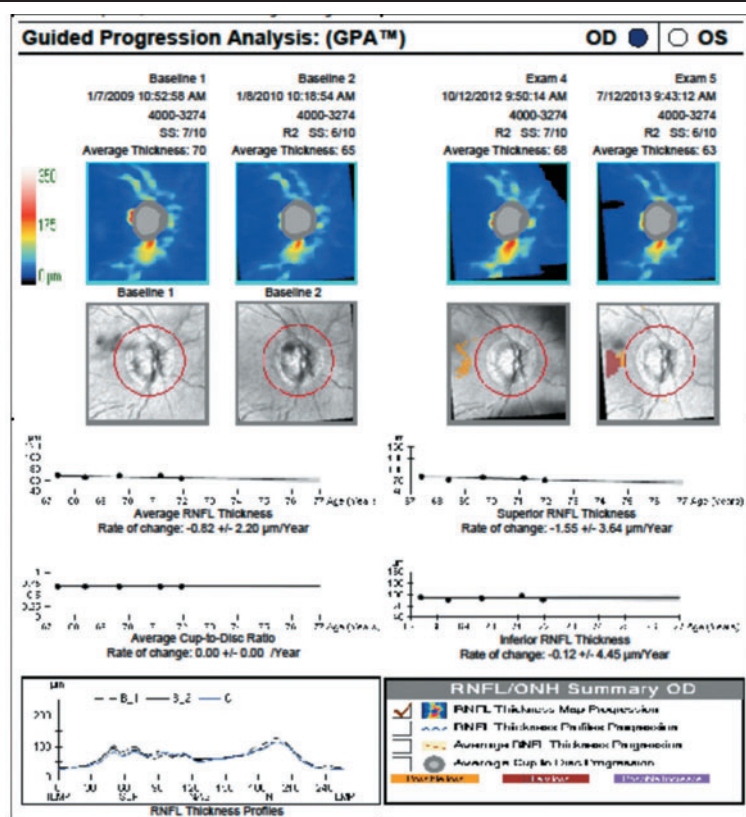
Dr. Casella, a 2007 graduate of University of Alabama at Birmingham School of Optometry, practices in Augusta, GA, with his father in his grandfather's practice. He is a member of Allergan's speakers' bureau.

A few months ago, I began to see what may be a little more progression on her OCT studies. I'm fairly confident that we're in a good place right now as far as compliance is concerned, and I'm entering a crossroads with her regarding possibly adding therapy vs. getting a consult for a laser procedure, such as selective laser trabeculoplasty (SLT), vs. getting a cataract consult. (She is phakic with 20/30 acuities, but she doesn't want to have cataract surgery right now.) I don't think her lenses are phacomorphic, but maybe we could achieve a mild IOP drop with cataract extraction. We discussed this, but she is pretty adamantly opposed to cataract surgery and insists she sees "fine." I didn't argue with her.

More drops vs. SLT consultation

I will attempt to confirm this progression in the next couple of months with another OCT and visual field study, and, if I can confirm the presence of progression, then, by definition, we're not at target pressure any more. So, let's take cataract surgery off the table for the moment and talk about additive therapy vs. getting a consult for an SLT.

If I confirm progression, then I should probably do something further. She's 66 years old, not 166 years old. She has had breast cancer, but her prognosis is good and she is otherwise pretty healthy. This leads me to believe we should plan on spending another couple of decades or so together. So, should I add a third drop into the mix knowing that compliance has been a factor in the past? I'm thinking not so much. Studies and common sense have shown that adding medications means more effort and cognitive demand on the part of all patients (and I'm thinking especially this patient). This is why combination drops are so desirable—they afford the abil-



If progression is confirmed, either structurally or functionally (and compliance is good and IOP is at target), then target IOP should be lowered.

I believe we should plan on spending another couple decades or so together. Should I add a third drop into the mix knowing that compliance has been a factor in the past? I'm thinking not so much.

ity of adding another medication with the luxury of not having to add another bottle. That's why it's typically a good idea to add one of the components of a combination drop and then build up to a combination drop if need be.


Now, this patient and I have a pretty good rapport, and I believe she listens to me (at least most of the time). Good rapport and communication can go a long way toward improving compliance,² and I always try to set aside extra time to talk with this particular patient to see how things are going. If I can confirm progression in the presence of good compliance, we'll have a conversation about adding a third drop vs. getting a consult for an SLT. However, I've pretty much made up my mind that I'm going to push for a consult. I just don't think she's going to be able to stick with 3 bottles worth of drops (I don't think I could either). So, if it comes to that, that's the direction in which I'm going to take the conversation.

While we're talking about additive therapy and progression, I should say that if this patient was in her 90s, my views on progression would take more of a pragmatic turn. By this, I mean that a little bit of progression very late in life will likely not lead to visual impairment. Glaucoma is a progressive disease by definition, and sometimes a little progression doesn't mean failure on the part of the clinician. However,

in the case of this particular patient, I have a valid argument for intervening further if things go south—likely lowering her target pressure to 12-14 mm Hg OU, as well. I want to intervene in as effective a way as possible, and, in many cases, effectiveness, simplicity, and convenience go hand in hand. **ODT**

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1. Khouri AS, Realini T, Fechtner RD. Use of fixed-dose combination drugs for the treatment of glaucoma. *Drugs Aging*. 2007;24(12):1007-16.
2. Nordmann J, Badouin C, Renard JP, et al. Identification of noncompliant glaucoma patients using Bayesian networks and the Eye-Drop Satisfaction Questionnaire. *Clin Ophthalmol*. 2010 Dec 8;4:1489-96.



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Preventing lens dropout with presbyopic patients

Multifocal lenses worth the time, effort to keep patients in lenses for life

We are all seeing an increasing number of presbyopes in our practices, as the baby boomer population bubble enters that stage of life where wisdom causes the loss of focus. There are many challenges we as doctors need to address within this population, including contact lens wear.

Traditionally, we have blamed discomfort for contact lens dropout, but we know that the level of dropout increases as people become presbyopic.¹ Patients think it is too much hassle to continue lens wear as the need for near correction increases. They become increasingly irritated with their inability to see at near.

As I lecture around the country, I am amazed at the number of doctors who tell me they don't use multifocal contact lenses. They tell me fitting them is too time consuming, and the lenses don't work that well. They say they can't charge enough for the extra time and effort it takes. They use monovision but often tell the patient that even this is not a good way to go. Often they would rather just prescribe multifocal glasses because it takes less time, and they make more profit. However, as I wrote in my last piece, the value of a contact lens patient far surpasses that of an eyeglasses patient.

Increasing options for presbyopes

Manufacturers are rapidly developing new lenses for this growing market. New designs will help our presbyopic patients stay in their lenses for life, including styles from Alcon, Bausch + Lomb, and Sauflon. Several new lenses will debut in 2014, including new one-day multifocals. This is a very exciting development, as I find that many of my patients would like to have the convenience of a daily lens, especially if they are wearing single-vision daily disposables. This also is a great way to introduce part-time lens wear to presbyopes who would



By David I. Geffen, OD, FFAO

Dr. David Geffen is a director of optometric and refractive services in San Diego, CA.

enjoy wearing lenses for social occasions. New multifocal gas permeable designs also provide excellent optics. And several of our soft-lens specialty companies are producing excellent custom-designed soft and soft-toric multifocals. With this vast array of lenses available, why are we not fitting more?

Patients' near demands are growing, and our presbyopes are not immune from smartphones, computers, and their wrist monitors. For patients who are just turning 40 or so, I recommend putting a +0.75 D lenses in front of their correction and see their response. If they say, "This is more comfortable," they may be prime patients to try a multifocal design. These are the sweet spot patients. Using a lower add lens and keeping their distance vision excellent will give them the advantage of better and more comfortable near vision. This also will start them in a multifocal, and once adapted as they age, it will be easier to go with a strong near lens. In my practice, I almost always recommend multifocals first and go to a monovision fit only if the patient cannot adapt. It is important for the practitioner to become familiar with at least 2 different multifocal designs and learn about the lenses' power profiles. This will give the doctor the confidence to recommend these lenses to their patients.

We must be confident when talking to our patient about multifocal contact lenses, but most importantly, we need to speak about them in a positive frame. If you don't show you believe in the lenses you recommend, you will set your patients up for failure. I talk to my patient about my high success rate and how happy my patients are in these lenses. I always smile when I have a new patient in the chair. Often, I mention multifocal lenses, and patients have never heard of them or they tell me their previous doctor said multifocals didn't work. The companies have developed excellent fitting guides for these lenses and, when using them, you will find your success rate will soar.

With this vast array of multifocal lenses available, why are we not fitting more?

Some doctors say multifocal lenses are not worth the time and/or money. Chair time is very valuable, and I have found that I am typically achieving success in 2 visits. But if chair time is becoming excessive, it is time to switch out of multifocals. Patients understand these lenses are more sophisticated and expect to pay more. Don't be afraid to charge more for the chair time; you have invested in your education and deserve to charge appropriately. Fortunately, these are the patients who have more disposable income and are more willing to spend on their wellbeing. Giving your patients the perception of being younger is a rewarding experience. **ODT**

References

1. Rumpakis JMB. New data on contact lens dropouts: An international perspective. *Rev Optom.* 2010;147(1)37-42.



THE TRAINING YOU NEED TO GROW YOUR MEDICAL PRACTICE

Attention All Optometrists

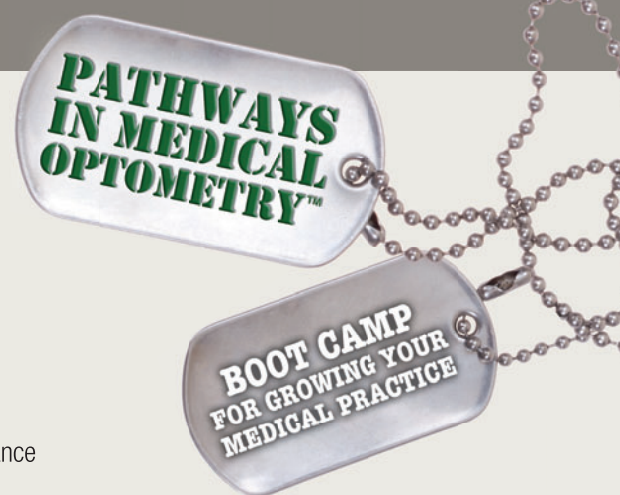
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Comanaging with confidence

Mutual respect and cooperation are key for the best patient care

The end game of any comanagement arrangement is providing patients with the best possible care they can receive. This seemingly obvious conclusion is sometimes clouded by the perception that optometry and ophthalmology are not working in tandem, and patients may be left confused and unsure about what is the best option for their ophthalmic care.

A true partnership can and should be established with high-quality surgical ophthalmologists who share in your vision and can provide your patients with the modern state-of-the-art technology. This necessity for a true comanagement relationship is no more apparent than at this very moment, with optometrists serving as primary-care providers and ophthalmologists providing surgical care for the aging population.

Patient education

The process of diagnosing and treating medical conditions is an ongoing course and should be instilled in your staff from the beginning. When patients call the office to inquire about an appointment, they should be greeted with questions regarding the nature of the visit. Patients are often unaware that optometry is pivotal in treating first-line ophthalmic diseases.

How does this relate to the comanagement of your patients when it comes to surgery? From the first impression, your patients should know you are more than just an office that provides contact lens and glasses prescriptions. Rather, we are a medical office with a focus on the health of your eyes and also can provide you with a contact lens and glasses prescription. Knowing that you have your fingers on the pulse of new medical technology provides your patients with an educational resource of ophthalmic treatments.

The key is the education that your practice can have available to help your patients with decisions, such as the surgical options a medical diagnosis will encounter. Who better to guide patients than the doctor who has been caring for their vision for years? As optometrists,

we wield a lot of influence over patients, and their trust in our decisions creates a long-lasting relationship that should be nurtured. We are fortunate to be in a time when there is an abundance of surgical choices for our patients to ponder. No longer is eye care predicated on just treating the patient to read the Snellen chart; rather, it is based on the personal visual demands of the individual.

For example, look at the doctor-patient relationship with laser vision correction

ing with another specialist to provide some of the care and most likely share in some decisions. The ultimate goal is to provide your patient with high-quality vision and an experience that does not leave doubts about her decisions.

There is no greater time than now to set up a site visit with the local surgeon who you think has superior surgical outcomes. There are questions that you need to answer for yourself and those can be satisfied only if you call on his or her office. In fact, calling the office as a potential patient to hear how staff handles the incoming patient call will help to elucidate what your patient will experience. This will also give you an insight into the customer service that is provided by the comanaging center.

Comanagement as a partnership

The comanaged relationship should be viewed as a partnership in the care of the mutual patient, and having the same language and information coming from both facilities will only solidify this relationship. As a practitioner who works on the surgical side, I know who



By Marc R. Bloomenstein, OD, FAAO

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(LVC). There is very little doubt that if a patient is a good LVC candidate, he can expect a great result, thanks to the advancements in wavefront technology, laser-assisted flap formations, and pre-operative evaluations. These same advancements are seen in the care of the cataract patient, and who knows more about their patients than primary-care providers?

The same educational process of any procedure in your practice should be extended to the surgical cataract patient. You need to have a plan to educate the patient early about the cataract, the surgery, time of post-operative medications, the specifics of the procedure, and the options available. You have to feel the same amount of confidence in this process as you would fitting your patient with a contact lens. The only difference in the cataract scenario is that you are work-

has invested in the time to educate the patient on the cataract process vs. those who wait for the process to take place in the surgery center. More often than not, the patient will want to stay in the facility that has been the most interactive and educational and has demystified the surgical procedure.

When you set up that initial or ongoing meeting with your local surgeon, inquire whom the patient will be seeing when she comes to the clinic. The surgical coordinator will be the best resource for what your patients will hear from that facility; however, do your homework. The surgeon's Web site will provide details about specific lenses and surgical platforms. Patient testimonials may also be featured.

When speaking with the coordinator/surgeon, get a detailed pre-operative regiment for the clinic. Studies have

shown that many patients suffer from undiagnosed dry eye prior to cataract surgery,^{1,3} and because we know that this can alter the measurements, you should be prepared to treat the ocular surface. Some surgeons require patients take medications, use lid wipes, or alter drop regimens; knowing this prior to sending the patient for a surgical evaluation enables seamless comanagement. It is also important find out what criteria is used to decide what specific lens is offered for each patient. For example, in my practice, we think any patient with at least 0.75 D of astigmatism may benefit from a toric lens.

A great comanagement arrangement is much like parenting. When the message is the same from both doctors, patients have fewer doubts. When you sit down with the surgeon, it is paramount that you express your philosophies and, although they may not be perfectly in sync with the surgeon's, they should be in line.


There should be a plan about how to handle unexpected surgical sequelae. What form of communication is going to get the best results and provide an immediate resolution to the problem without creating undue stress for the patient?

Your office can provide marketing materials that explain the procedure, when and if a laser will be used, different lenses available, and a biography of the surgeon. Call the surgery center to set up your patient's preoperative evaluation. Using an appointment card with your name as well as the surgeon's is another opportunity to present a cooperative approach. If you know when the surgery is going to take place, establish the follow-up appointment in your practice commensurate with the schedule you have established with the surgical center. Making a personal connection with your patient as he goes through the surgery, such as a call or card sent on the surgery day, can demonstrate your high level of care.

Mutual respect and cooperation is the key to a great comanagement arrangement. The optometrist's longstanding relationship with the patient and the confidence in the surgeon is a winning combination for all involved. Establishing your office as a comanagement center ensures that you are committed to your patients' quality of life and an active participant in the surgical process. **ODT**

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Life well lit 

Clinical challenges in anterior segment ocular disease

An opportunity to excel as a primary eyecare provider.

By **Ernie Bowling, OD, FAAO**
Chief Optometric Editor

Anterior segment ocular disease is one area in which optometrists can really help their patients in need. Optometrists can treat anterior segment disease with topical medications and oral medications in many states. As primary eyecare providers, we are uniquely situated to care for our patients with anterior segment ocular disease. This is the third in a series of articles summarizing the Diplomate preparatory course by Primary Care Section of the American Academy of Optometry.

Dry eye

One common problem that presents to practically every optometrist's office is dry eye (see Figure 1). Several years ago, a distinguished group of optometrists and ophthalmologists convened to arrive at a commonality of dry eye diagnosis and treatment.¹ The international task force (ITF) coined the term "dysfunctional tear syndrome" to what we refer to as dry eye. This group actually preceded the Dry Eye Workshop (DEWS) and, while the term "dysfunctional tear syndrome" never caught on, many of the same recommendations were present in the DEWS report. Its guidelines broke the condition into 4 levels of severity and recommended treatment options for each:

- **Level I** may present with mild to moderate symptoms, and there may be mild to moderate conjunctival signs, but it is also possible there may be no signs.
- **Level II** patients may show moderate to severe symptoms, tear film signs, mild corneal punctate staining, and conjunctival staining.
- **Level III** symptoms will be severe, including marked corneal punctate staining, central corneal staining, and filamentary keratitis.
- **Level IV** patients experience extremely severe symptoms, possibly to the point of needing to alter their lifestyles. Look for severe corneal staining, erosions, and conjunctival scarring in this set of patients.

The treatment algorithm development of

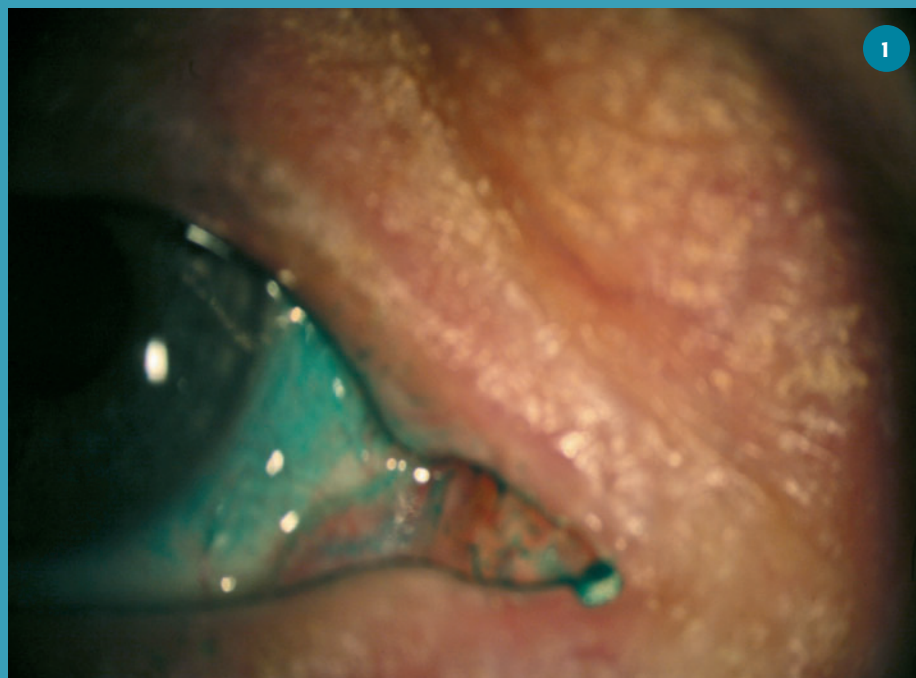


Figure 1. Dry eye disease.

the ITF panel begins with patient education of her condition, changes in her environment, and attention to her systemic medications as it relates to her dry eye. Preserved artificial tears and allergy control is the first-line recommendation from mild or Level I dysfunctional tear syndrome. Nutritional supplements, cyclosporine A (Restasis, Allergan), and secretagogues are added at level II; oral tetracyclines and punctal occlusion at Level III; and systemic anti-inflammatories and acetylcysteine (Mucomyst, Bristol-Myers Squibb) at Level IV. While this is a very regimented protocol, obviously we cannot treat each patient in such a cookbook manner. It is incumbent upon each of us as practitioners to treat every patient on an individual basis.

Hyperosmolarity has been described in the Tear Film and Ocular Surface Society (TFOS) dry eye report as a primary marker of tear film integrity and the key component of dry eye disease.² When the quantity or quality of secreted tears is compromised, increased rates of evaporation lead to a more concentrated tear film measured as increased

tear osmolarity, which places stress on the corneal epithelium and conjunctiva. With filamentary keratitis, consider the use of acetylcysteine. This mucolytic goes in the nebulizer to break up phlegm in asthmatics. It makes a nice drop to break up the filaments in filamentary keratitis when you mix it one-to-one with artificial tears. This needs to be prepared by your local compounding pharmacist. The one drawback is it has a strong odor.

Meibomian gland dysfunction (MGD)

Anterior blepharitis is an inflammatory condition of the outer portion of the eyelids and is often secondary to infection or associated with acne rosacea or seborrheic dermatitis. Posterior blepharitis is an inflammation of the inner portion of the eyelids and is associated with altered composition of the meibomian gland secretions.³ Signs and symptoms of posterior blepharitis include the characteristic plugged meibomian gland openings and the foamy or soapy tear film that is pathognomonic for the disease. The normal meibomian gland secretions

change in essence from an unsaturated fat to a saturated fat. The normal monoglycerides and diglycerides are more solid in meibomian gland dysfunction, which leads to orifice obstruction and plugging of the glands. The white cheesy plugs and toothpaste-like exudate are degraded triglycerides. The monoglycerides and diglycerides are pro-inflammatory, which leads to the inflammation associated with meibomian gland disease.

We are all familiar with the traditional treatments for blepharitis: the warm compresses, lid scrubs and topical antibiotic therapies. Newer therapies include the omega-3 antioxidants and oral tetracycline class drugs, used more for anti-inflammatory activity than their antibiotic effect. Traditional treatments are now augmented by the use of azithromycin 1% topical drop (AzaSite, Akorn), massaged into the eyelids twice a day for 2 days, then once a day for 28 days.

GPC/VKC

Giant papillary conjunctivitis (GPC) is not a true allergic reaction, as is the case with seasonal allergic conjunctivitis (SAC), atopic keratoconjunctivitis (AKC), and vernal keratoconjunctivitis (VKC). GPC is caused by the repeated mechanical irritation of the papillary conjunctiva, and it is aggravated by concomitant allergy. We're all familiar with the clinical presentation of GPC: mild lid hyperemia, thick mucus buildup, and uniform flat papillae on the superior tarsal plate. Treatment includes removing the offending cause, topical histamines/mast cell stabilizers, and topical steroids. The combination mast cell/antihistamine drops, while recommended for once-daily dosing, are quite safe and can be used more often as needed.

VKC is a chronic inflammation occurring most frequently during the spring and summer months, due to a normal seasonal increase in allergens in the air. It can also be caused by an allergic reaction to other irritants, such as chlorine in swimming pools, cigarette smoke, and ingredients in cosmetics. It is a disease predominately affecting young boys, and research has shown these patients may have a histaminase deficiency.⁴ The patient complains of intense itching and tearing and may complain of a hot feeling in his eyes, along with photophobia (see Figure 2). Manage this presentation with an oral antihistamine, a combination antihistamine/mast cell stabilizer several times a day, and topical steroids. A cold pack will help relieve swelling and redness and will make the patient feel better. If there is a corneal epithelial defect, a

DEWS guidelines

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Level IV patients experience extremely severe symptoms, possibly to the point of needing to alter their lifestyles. Look for severe corneal staining, erosions, and conjunctival scarring in this set of patients.

bandage contact lens can be employed. If a bandage contact lens is used, cover with a topical antibiotic. These patients can resolve within a few weeks of maximum medical therapy, but they're looking at a maintenance medication like a combination mast cell stabilizer/antihistamine drop.

Microbial keratitis

What microbe is commonly found in corneal ulcers (see Figure 3)? The Steroids for Corneal Ulcers Trial (SCUT) study provides interesting data. The SCUT study was the first large, prospective randomized clinical trial assessing the impact of adjunctive topical corticosteroids in patients with bacterial corneal ulcers.⁵ The most commonly isolated Gram-positive microbe in the SCUT study was *Strep pneumoniae*, and the most common Gram-negative microbe was *Pseudomonas aeruginosa*. Contact lens wear is a common risk factor for corneal ulcers in United States, in contrast to agricultural work being the most common risk factor in India, where the study was conducted.

What about the use of corticosteroids in corneal ulcers? We've all seen these used, but is that good medicine? The results of the SCUT study can guide us. The SCUT study found no significant difference in 3-month

best spectacle corrected visual acuity (BCVA) between patients receiving topical corticosteroid or placebo as adjunctive therapy in the treatment of bacterial corneal ulcers. The results of the SCUT study demonstrate no obvious benefit in using corticosteroids in the overall study population. An intriguing finding of the SCUT study was that subgroup analysis demonstrated a benefit in 3-month BCVA using corticosteroids in corneal ulcers exhibiting the greatest severity at presentation. Corticosteroid treatment was associated with the benefit in visual acuity (VA) in the subgroups with the worst VA and central corneal ulcer location at baseline. These subgroup analyses suggest that patients with severe ulcers, those who have the most to gain in terms of VA, may benefit from the use of corticosteroids as adjunctive therapy. Note the irony that these central ulcers are the ones we are the most afraid to use steroids on.

Fuch's dystrophy

Fuch's dystrophy is an autosomal dominant inherited disease that affects women greater than men.⁶ It typically presents in the fifth to sixth decade of life as multiple central corneal guttata (excrescences of Descemet's membrane) associated with pigment dusting on the endothelium. The condition spreads from the center toward the periphery. As the endothelial cells fail, the remaining cells enlarge to cover the gap. With the reduced number of endothelial cells, the endothelial pump function suffers. This leads to corneal edema and loss of VA. Vision is typically worse upon awakening because of the swelling induced by nighttime lid closure. In more advanced stages, the epithelial microcysts later coalesce forming bullae, which can rupture, causing foreign body sensation and pain, as well as exposing the cornea



Figure 2. Vernal conjunctivitis giant papillae.

Anterior segment

Continued from page 17

to the danger of infectious keratitis.

Treatment for Fuch's include sodium chloride 5% eye drops instilled 4 to 6 times during the day, especially in the early hours of the day and less frequently in the evening. Sodium chloride ointment (Muro 128, Bausch & Lomb) is used at bedtime. Using a hair-dryer, kept at arm's distance, can be used to blow warm air over the cornea for 5 to 10 minutes upon awakening. Dehydrating the cornea in this manner may improve the vision of the patient for some time. Lowering the intraocular pressure is useful when it is even mildly elevated. It occasionally helps even when the pressure is normal, especially in borderline cases of corneal decompensation. Topical carbonic anhydrase inhibitors should be avoided because they hinder the activity of the endothelial pump.

Failing vision in the presence of epithelial edema and stromal haze, which does not resolve with treatment, is an indication for surgery. There are 3 surgical options for the Fuch's patient: penetrating keratoplasty (PK) has long been the standard treatment a future the field dystrophy. In the last few years, major advances have made replacement of the endothelial layer possible without disturbing normal anterior structures of the cornea using endothelial keratoplasty. Descemet's stripping endothelial keratoplasty (DSEK) involves the transplant of healthy endothelial layer along with minimal posterior corneal stroma.⁷ Descemet's membrane endothelial keratoplasty (DMEK)

is the transplant of endothelial cells along with Descemet's membrane only. Patients who undergo DSEK regain early and more superior VA than patients who undergo PK due to lack of surface sutures. These eyes are structurally stronger and more resistant to postoperative dramatic injury, and no suture related graft infection or graft rejection occurs.

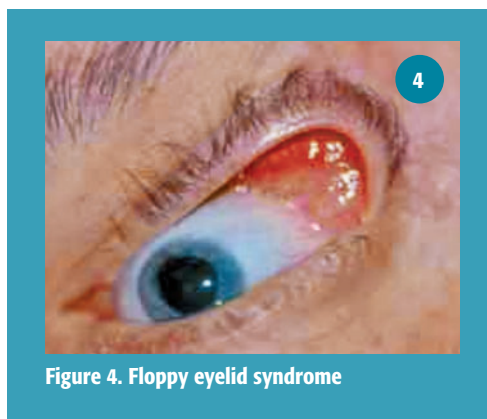


Figure 4. Floppy eyelid syndrome

Floppy eyelid syndrome

Floppy eyelid syndrome typically develops in obese patients with extremely lax eyelids, which evert spontaneously or with minimal manipulation (see Figure 4). Classically, the eyelids evert and rub on the pillow or sheets while the patient is asleep, which is the cause of the papillary conjunctivitis and exposure keratopathy exhibited when the patient presents complaining of foreign body sensation and ocular irritation. Patients with this floppy eyelid syndrome require a referral to an internist or pulmonologist for evaluation of sleep apnea syndrome, which can be associated with floppy eyelid syndrome.

Obstructive sleep apnea is a potentially fatal disorder. Frequent episodes of sleep apnea can lead to systemic and pulmonary hypertension and ultimately lead to congestive cardiomyopathy. Obstructive sleep apnea is associated with other serious ocular disorders, such as keratoconus from rubbing the eyes, glaucoma, ischemic optic neuropathy, and papilledema secondary to increased intracranial pressure.⁸ Floppy eyelid syndrome is often unrecognized, and you can do your patients a real service by recognizing this condition and making the appropriate referral.



Figure 3. Microbial keratitis.

Opportunity to excel

Anterior segment ocular disease is one area in our practice where optometrists can really excel. Our patients present to our office for us to care for these conditions regularly, and proper treatment is a great practice builder because a healthy, happy patient can generate tremendous word of mouth and loyalty for your practice. **ODT**

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Clinical implications of corneal hyperfluorescence

Looking beyond fluorescein testing results to assess contact lens and solution biocompatibility

By Marc R. Bloomenstein, OD, FAAO,
and Derek Cunningham, OD, FAAO

Otolaryngologists (ENTs) have it easy. They can instruct their patients not to stick anything in their ears that is smaller than their elbows, and not only is it sound medical advice, but it has a fairly high rate of compliance. Eyecare professionals (ECPs) who fit contact lenses, on the other hand, have a more difficult hill to climb because we purposely put materials in our patients' eyes, an impossible feat without biocompatible products.

What is biocompatibility?

Biocompatibility is the *degree* to which a synthetic material affects the human body.^{1,2} "Degree" is an important qualifier because a material can have an impact on its intended environment (i.e., reasonable risk of adverse effects [both local and in the body as a whole]) and still have a level of biocompatibility.² Synthetic materials are used to improve or restore function lost as a result of disease, tissue damage, or defective tissue.³ Contact lenses and accommodative lenses are 2 examples of synthetic materials that work with the eye to help restore or improve visual acuity. In eye care, the goal is for a product to have a tolerable im-

Take Home Message

As an eyecare professional, it is important to understand the biocompatibility of different contact lenses and solutions. While studies offer important data on the subject, the data should be reviewed with a critical eye. Corneal staining tests do not necessarily indicate a lack of biocompatibility, especially in PHMB-based multi-purpose solutions, because fluorescein has been shown to bind so strongly with PHMB molecules. There are different reasons for corneal staining, and not all of them are pathological. ECPs should understand the available research.

pact on the eye while maintaining an effective result.

Evaluating biocompatibility

There is no single test for biocompatibility; a series of tests are required. Regulatory agencies such as the International Standards Organization (ISO) and the United States Food and Drug Administration (FDA) have established test protocols and minimum requirements that are specific to the duration and type of exposure (internal vs. external) the material will have with the body.⁴ ISO 10933 is one of the most widely used guidelines for evaluating biocompatibility. This protocol includes an extensive battery of tests for cytotoxicity, genotoxicity, sensi-

tization, irritation, and systemic effects.^{3,4} Once extensive *in vitro* and *in vivo* trials are completed, clinical trials to test the efficacy and safety of these products are conducted on humans.⁴ *In vitro* assays may look at a number of indicators of biocompatibility, including:

- Overall cell health
- Membrane viability
- Apoptosis
- Barrier function,
- Tight junction integrity
- Electrical resistance⁵

Standard protocols such as ISO 10933 measure biocompatibility at the cellular and tissue levels and in the body as a whole,⁶ take into consideration individual materials of a product as well as the end product, and review the procedures involved in production (e.g., manufacturing, packaging, storage).⁷ The levels of clinical markers of cell injury and inflammation that develop, such as interleukin (IL)-1 and IL-6, and the presence of non-resident immune cells such as macrophages, mast cells, and neutrophils, help determine the biocompatibility level of a product.^{6,8,9} The higher the number of cell injury and inflammatory markers that are produced, the lower the level of biocompatibility.^{10,11}

Various presentations of corneal staining

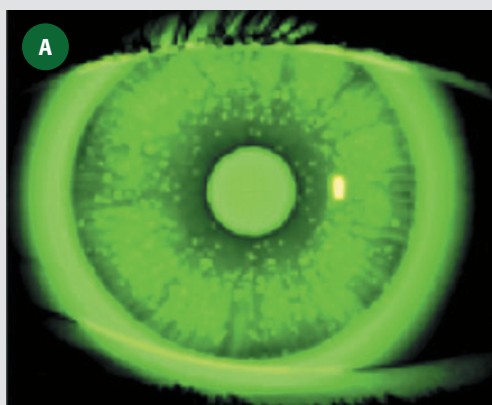


Figure 1A: Micropunctate pattern

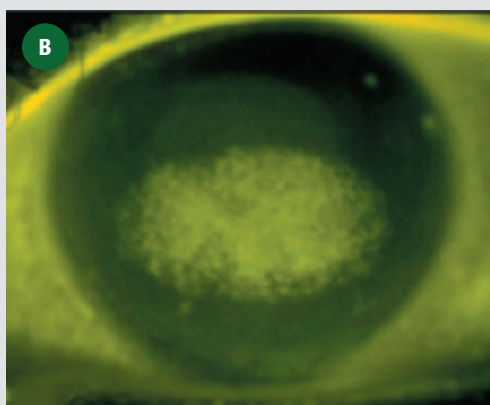


Figure 1B: Coalesced superficial corneal staining

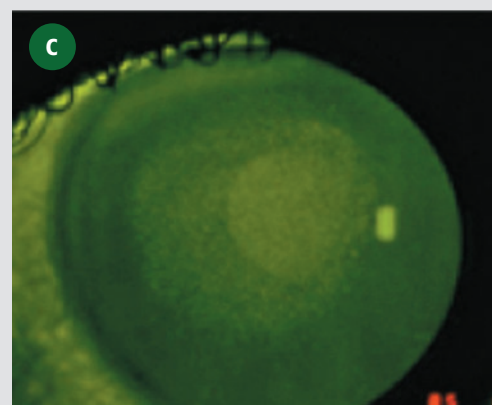


Figure 1C: Central corneal staining
(Photos courtesy Marc Bloomenstein, OD, FAAO)

Biocompatibility and contact lens wear

There are several reasons why both contact lenses and solutions require a certain level of biocompatibility. The primary reason is that these materials come into direct contact with the ocular tissue. These products may directly and irreparably harm the eye and the patient's vision. Lens materials with poor oxygen permeability can cause hypoxic symptoms, which contribute to the development of edema.¹² If the disinfection efficacy of a contact lens solution (multi-purpose solutions [MPS] and hydrogen peroxide) is too weak, then bacterial colonization may occur on the lens or lens case, potentially leading to proliferation once the contaminated lens is placed on the eye; and if it is too strong, the solution may cause irritation or the refractive surface may be disrupted. By having international standards, practitioners and patients are assured that a product has a particular level of safety regardless of where it was manufactured.

While products are thoroughly tested, it is impossible to say conclusively that the product is safe for all patients due to patient variability and suboptimal levels of compliance with product use instructions. New products continue to enter the market, and it is the responsibility of all ECPs to stay current on how these additions affect treatment options for patients, both in terms of efficacy and safety. Medical association meetings are excellent sources of new study data. Journal publications, both print and online, are essential conduits of new information. Regardless of the medium for dissemination, data should always be reviewed with a critical eye because there could be concerns with the study's design or conclusions. The debate surrounding corneal staining is a good example of why this is important.

The Andrasko Grid captures the level of corneal fluorescence with fluorescein staining at 2 hours with various MPS and lens combinations.^{13,14} The degree of fluorescence has been suggested to be indicative of certain MPS—most prominently PHMB-based solutions—having adverse effects on the corneal epithelium. But do the results shown on this grid reflect a lack of biocompatibility? The quick answer is “no.” Dillehay and colleagues questioned whether the data had any clinical relevance due to weaknesses (eg, lack of statistical testing, small sample size) of the study design upon which the grid is based.¹⁵

We all use fluorescein to measure the integrity of the corneal epithelium. However, in contact lens wearers, results should be interpreted with a great degree of caution. Because fluorescein has been shown to bind so strongly with PHMB molecules, it is pos-

Here are some general guidelines that we use in our practices for determining the threat level to patients:

If at the initial observation of staining, the patient is exhibiting signs or symptoms (e.g., redness, edema, infiltrates) associated with pathological conditions (e.g., inflammation, infection, trauma), then a more detailed evaluation should be conducted that includes the patient's medical history and the pattern/location of the

fluorescence. Once a diagnosis has been made, the patient should be treated accordingly.

If no signs or symptoms are observed, and the staining is Grade 2 or lower according to the Efron Grading Scale for Corneal Staining,²² then the staining is considered not to be clinically significant.

If no signs or symptoms are observed, but the staining

is greater than Grade 2, then the staining should be re-evaluated after more than 2 hours have passed. If at this later time point the staining is still present, but at Grade 2 or less, then the staining is not clinically significant. If it remains greater than Grade 2, then the patient needs to be re-evaluated as described previously.

sible that any transient hyperfluorescence observed may be the aggregation of these 2 types of molecules at the ocular surface. In addition, studies have suggested that corneal staining/hyperfluorescence may be the result of the ability of fluorescein to enter healthy cells or nonpathologic processes such as desquamation (the shedding or peeling of epithelial cells).¹⁶⁻²⁰ Corneal staining can present in different ways (see Figure 1). It can also have a multitude of etiologies, including solution-induced corneal staining (SICS)²¹ and preservative-associated transient hyperfluorescence (PATH),²¹ which makes it difficult to determine if staining is pathological in nature with fluorescein testing alone.

Nonpathological corneal staining is generally a condition requiring nothing more from the ECP than vigilance because most patients will be asymptomatic. However, if the patient is symptomatic, then a change in lens or lens care may be necessary. There are 6 types of clinically important corneal staining in contact lens wearers:

- Mechanical
- Exposure
- Metabolic
- Toxic
- Inflammatory
- Infectious²²⁻²⁴

How can the ECP determine if the patient is at risk if fluorescein testing alone is not specific enough to determine if corneal staining is pathological? Here are some general guidelines that we use in our practices for determining the threat level to patients:

- If at the initial observation of staining, the patient is exhibiting signs or symp-

toms (e.g., redness, edema, infiltrates) associated with pathological conditions (e.g., inflammation, infection, trauma), then a more detailed evaluation should be conducted that includes the patient's medical history and the pattern/location of the fluorescence. Once a diagnosis has been made, the patient should be treated accordingly.

- If no signs or symptoms are observed, and the staining is Grade 2 or lower according to the Efron Grading Scale for Corneal Staining,²² then the staining is considered not to be clinically significant.
- If no signs or symptoms are observed, but the staining is greater than Grade 2, then the staining should be re-evaluated after more than 2 hours have passed. If at this later time point the staining is still present, but at Grade 2 or less, then the staining is not clinically significant. If it remains greater than Grade 2, then the patient needs to be re-evaluated as described previously.

ECPs must take the lead

All ophthalmic products approved for medical use have passed a battery of *in vivo* and *in vitro* standard tests that support their safety. Does this mean that a particular ophthalmic product has the same level of biocompatibility in all patients? No, but this is due to a combination of patient variability and the inability of all patients to be 100% compliant with product guidelines. That is why ECPs should choose the product that they feel will work most effectively and safely with each patient.

See **Hyperfluorescence** on page 22

Hyperfluorescence

Continued from page 21

Corneal staining is a controversial topic; probably because the only things of which we can be certain are:

- It is there
- We do not know what, exactly, it represents (especially because it can also occur in non-contact lens-wearing patients)
- Additional research is needed

That is not to say that we know nothing. We know that there can be several different causes of corneal staining, and not all are pathological. Until corneal staining is fully explained, ECPs need to take the lead in detecting and managing it.

There is no single test for biocompatibility; a series of tests are required.

The biocompatibility of ophthalmic products reflects our knowledge of how the eye works and our ability to create materials that function in this sensitive environment.

ECPs need to keep as current as possible as the ever-expanding literature can educate and provide clarification, helping them to make informed decisions regarding treatment recommendations that reflect the greatest safety and efficacy benefits possible. As additional research becomes available, ECPs should take their clinical experiences into consideration and should evaluate the merits of the data on their own and not rely solely upon the conclusions of the study authors. This is especially true in cases where there is already a considerable amount of data in the literature demonstrating the safety of a product.

The biocompatibility of ophthalmic products reflects our knowledge of how the eye works and our ability to create materials that function in this sensitive environment. As our understanding increases and our diag-

nostic/manufacturing abilities become more sophisticated, we can expect to see products with increased safety and improved abilities. We will never be able to tell our patients not to put anything in their eye that is smaller than their elbows, but then why would we want to when there is so much that we can do to improve vision and safeguard the health of our patients' eyes? **ODT**

Acknowledgement

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Simple strategies for successful frame board management

Careful planning is the key to a strong dispensary business

By Lisa Frye, ABOC

At the heart of every optometric dispensary lies the important job of managing the frame board inventory. This task can appear to be challenging at times, but by following some simple strategies, it will lead to success. As with any investment, your view should be from the perspective of keeping a balanced budget with growth and profit in mind.

Most practices start out with a goal of how many frames they plan to display and make an initial investment. After the initial investment, it becomes relatively easy to produce reports to track patterns that will show you exactly what your needs are in specific areas. A smaller dispensary may carry only 500 to 600 frames, while others, particularly if in a higher income demographic, may need as many as 1,000 frames in order to offer a great selection. To determine the ideal number of frames your dispensary should carry, you must understand that setting this number is directly related to your sales volume and your inventory turn ratio.

Crunching the numbers

Profit for your practice is maximized when you can turn the inventory quickly. If you have more frames than you need in inventory, you have tied up working capital dollars that could be best served elsewhere in your practice. The average practice turns inventory 2 to 3 times a year, but a goal of at least 4 times would be more profitable. There is a simple formula to determine your turn ratio: take the annual cost of frame goods sold, divide it by the average monthly inventory, and you will get the number of inventory turns or your turn ratio. Here are some examples to simplify understanding:

- **Example 1:** Annual frame cost of goods \$50,000/Average monthly frame inventory \$30,000=turn ratio of 1.6 turns. (Not ideal)
- **Example 2:** Annual frame cost of goods \$100,000/ Average monthly frame inventory \$40,000=turn ratio of 2.5 turns. (Average)
- **Example 3:** Annual frame cost of good

Take-Home Message

To make the most of your dispensary business, it is important to manage your inventory, keep a budget, and identify your market in order to maximize profits. An ideal goal would be an inventory turn rate of 4 times per year, while maintaining an adequate selection that will best serve the needs of your customers.

\$80,000/ Average monthly frame inventory \$20,000 turn ratio of 4 turns. (Excellent)

Although turning your inventory 4 times is a noble goal, in these competitive times, you still have to offer an adequate selection of inventory. By understanding sales volume and turns, you can better decide your inventory needs. Budget wise, one could look at the previous year and see the total monthly dollars spent on frame inventory in each particular month or calculate how many frames were sold that month to set a monthly budget allowance. If you go over that budget, offset it the next month. By adding the total dollar amount of your frame vendor statements each month and comparing it to the report of the wholesale dollar amount of frames sold for that month, you can easily identify whether



Turning frame inventory 4 times a year is a good goal, but you still must offer a good selection of inventory to remain competitive.

you maintained the desired budget or were under or over budget.

Examples of tracking your monthly budget:

- **Frames sold in January: \$10,000;** purchases made in January \$12,000; over budget \$2,000.
- **Frames sold in February: \$8,000;** purchases \$6,000; under budget \$2,000.

Identify your market

You can confirm the particulars of gender, vendor, and price point that identify your market. Once you get a feel for your market, begin to set up your dispensary to reach that market. Divide your categories and set numbers for each category and each vendor. Invest in the areas in which you would like growth. Sunglasses would be a good example in spring and summer. Track your trends with frame sales reports.

Most often, the average frame sale is the midpoint between your highest-end and lowest-end frame retail. You can control your average sale by planning accordingly. If one vendor sells exceedingly well, increase that line or vendor and offset the increase by decreasing or replacing a line that is slow moving. Although you track and adjust your core lines, those areas that do not turn as quickly, such as high-end, children's frames, readers, sports frames, etc., should still have adequate representation and selection. If you become in-network for local accounts, often you will be provided, free of charge, safety frame kits or consignments, which offset the cost of inventory investments. This is still a viable option in a lot of markets. If available, certainly take advantage when offered. Deal with current merchandise and avoid closeouts unless that is your market.

By limiting the number of vendors in your



The average frame sale is the midpoint between your highest-end and lowest-end frame retail.

practice, you can invest better in time management with frame sales reps, offer a larger selection of a particular line in order to capture the “presence” of the line, and ease the monthly statement and billing process, as well. A good representation covers your core product, allowing you to have your niche areas or higher-end selections, and to reserve an area for new merchandise, also. After all, a department store does offer the core, but we always expect to see something new and exciting that represents changing fashion and current trends.

By planning and reordering your inventory, you can easily manage costs and numbers. You keep track of what was sold. Decide whether or not to reorder a particular frame, wait until you have enough pieces to make shipping costs reasonable, and reorder weekly or bi-weekly for each vendor. You should keep under-stock of best sellers, but a good rule of thumb is to

Profit for your practice is maximized when you can turn the inventory quickly.

limit under-stock to 10% or less of your total inventory numbers. Merchandising can make less appear more, and rearranging your dispensary can make old look new. Most optometric practices sell the frame displayed and order what was sold, maintaining representation of the line, but update styles as they become available.

Each practice is unique, but by looking at your frame sales history, you can set guidelines, adjust in areas as the need arises, and by following these strategies, the process can become quite simple. Stay within your budget, adjust with the trends, keep inventory fresh, work your frame boards with merchandising, make them appealing, cater to your market, and you will be successful with growth and profit. Involve your staff in creating excitement and allow them to be a part of the process, take control of your frame boards, and take your practice in the direction you wish to go. **ODT**



By limiting your number of frame vendors, you can better manage time with reps, offer a larger selection within a line, and ease your billing process as well. (Photos courtesy Lisa Frye, ABOC)

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In Brief

X-Ide presents Shifters and Spokes



Milan, Italy—X-IDE releases **Shifters** and **Spokes**, 2 new models that stand out for their silicone temples. **Shifters** has a steel front, while **Spokes** has an acetate front to which a special varnish has been applied giving the frame an original and innovative “soft touch” effect.

The silicone sheath applied to the temple provides an opportunity to explore one’s creativity and customize each model. By twisting it, you can change both the color and shape of the temple. This makes it possible to create different color effects and, in fact, the same frame can boast multiple colors: the external color of the sheath, the internal color, and multi-color effects by twisting the sheath for a candy-stick look.

Gant Eyewear releases Spring 2014 optical collection



Somerville, NJ—The Gant Spring 2014 optical collection presents modern wearable silhouettes. The optical collection finds its inspiration from the relaxed and effortless styling of the brand’s signature collections, highlighted by vintage-inspired motifs and two-tone colorations.

The Gant Eyewear collection for men presents 3 new styles, including the timeless design of models **G Asher**, **G Parker**, and **G Stellan**. Sleek metal temples display a tone-on-tone accent delivered in a satin finish on all 3 models. Both **G Asher**, a full metal frame with a rectangular front, and **G Parker**, a semi-rimless softened rectangular frame, are offered in a deep metallic tone. Model **G Stellan** sports a rectangular front handcrafted in acetate in rich colors of black, brown/horn, and tortoise.

The Gant Eyewear Spring 2014 collection for women presents 3 new

styles, which features a combination of handmade acetate and metal detailing.

The design of **GW Ava** features a slight upsweep to the frame’s soft rectangular front, which is handcrafted in acetate. Gradient crystal colorations, including a sunburst of red to crystal, as well as tortoise and black add a dramatic touch to the frame’s design. Matte finished metal temples accented by shiny metal studs complete the look of this sleek style.

The lightweight design of semi-rimless model **GW Eliza** features a satin finished metal front in shades of black, brown, and purple. Handmade acetate temples in rich tortoise variations are accentuated by metal studs and feature navy colored temple tips.

Tortoise colorations highlight the handmade acetate design of model **GW 102**. Solid colors in shades of brown, black, or green accentuate the frame’s front and double-layered temples.

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Zyloware announces 2014 launches: Sophia Loren, Randy Jackson, Invicilites

Port Chester, NY—The new Zyloware Eyewear releases for 2014 feature styles from the Sophia Loren, Randy Jackson, and Invicilites collections.



Sophia Loren M248, seen above, is offered in two feminine colors with a cutout metal end piece featuring a chain link design with crystal stones.

- **Colors:** Lavender (091), Rose (118)
- **Sizes:** 52-16-135
- **Special features:** semi-rimless metal front; open metal endpiece and temple with chain link design and stones; Zyl temple tips; snap-in nose pads; spring hinges; accommodates progressives.

— **List price:** \$54.95



Randy Jackson 1048, seen above, is a wide-fit combination frame with a sleek metal front and Zyl temples. Color Black (021) features a thick zyl temple with a brown striped pattern design and black metal rivet.

- **Colors:** Black (021), Gunmetal (058)
- **Sizes:** 54-17-145
- **Special features:** full rim metal front; metal endpiece; Zyl temples with metal rivets; snap-in nose pads; spring hinges.

— **List Price:** \$59.95

Randy Jackson 1050 two-tone front features a sheet-metal top and rim wire bottom with a wrapping metal endpiece

- **Colors:** Black/Brown (219), Black/Gold (235)
- **Sizes:** 52-19-145
- **Special features:** sheet metal top and rim wire bottom; Zyl temple tips with RJ logo on the right tip; spring hinges; snap-in nose pads; accommodates progressives.

— **List price:** \$59.95

The Invicilites Sigma Collection features customizable ultra-thin stainless steel metal bridges and stainless steel end pieces for adjustability, with colorful Grilamid temples that fold flat.

Candie's Eyewear presents Spring 2014 collection



Somerville, NJ—Viva International Group introduces 4 new ophthalmic styles to the Candie's Eyewear collection. The new styles feature playful accents, including stud embellishments and colorfully patterned temple treatments.

Inspired by the design of an embroidered friendship bracelet, a 3D printed pattern adorns the metal temples of models **C Whitney** and **C Willow** in an Aztec-like pattern of contrasting colors. **C Whitney** features a metal front in a soft oval shape in matte finishes of shades of black, brown, or plum. **C Wil-**

low's handmade acetate front is offered in a modified rectangle shape in black, brown over pink, or plum over lavender.

C Skyler and **C Skye** feature studs in an outline of the Candie's "C" on the handmade acetate temples, accented by a jewel detail. **C Skyler's** modified cat-eye shape is offered in shades of black over white, crystal brown, and dark plum over purple. **C Skye** features a flat metal front in a rectangular shape in matte finishes of black, brown, and purple. A heart stud accents the duo's temple tips for the finishing touch.

Invicilites Sigma B is a rimless frame in a rectangular shape with a metal bridge and end piece. The Grilamid temples feature Grey Mist coloring and provide comfort to the wearer.

- **Colors:** Grey Mist (058)
- **Sizes:** 50-18-140
- **Special features:** metal endpiece and bridge; hinged Grilamid temples; snap-in plug mount system.

— **List price:** \$54.95

Invicilites Sigma C is a petite rimless frame in an oval shape. The flexible Grilamid temples contribute to the comfort of this frame.

- **Colors:** Beige (234)
- **Sizes:** 48-18-140
- **Special features:** metal endpiece and bridge; hinged Grilamid temples; snap-in plug mount system

— **List price:** \$54.95

Invicilites Sigma G is a soft square shaped, rimless frame for men with gold colored metal bridge and endpiece, and beige colored Grilamid temples.

- **Colors:** Beige (234)
- **Sizes:** 50-18-140

- **Special features:** classic soft square shape for men; metal endpiece and bridge; hinged Grilamid temples; snap-in plug mount system.

— **List price:** \$54.95

The Invicilites Zeta Collection in strong, lightweight stainless steel features laser finished temples with design inspired detailing.



Invicilites Zeta X-A is a rimless, lightweight frame in a classic rectangular shape. The metal temples feature a unique geometric laser cutout design.

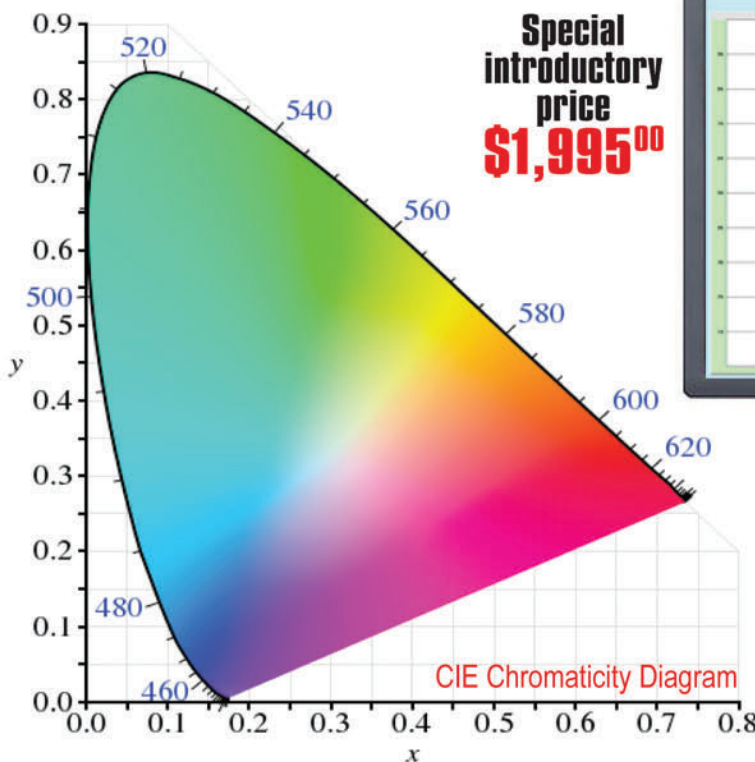
- **Colors:** Black (021)
- **Sizes:** 54-18-140
- **Special Features:** Metal endpiece and temples; Zyl temple tips; Snap-in plug mount system.

— **List Price:** \$59.95

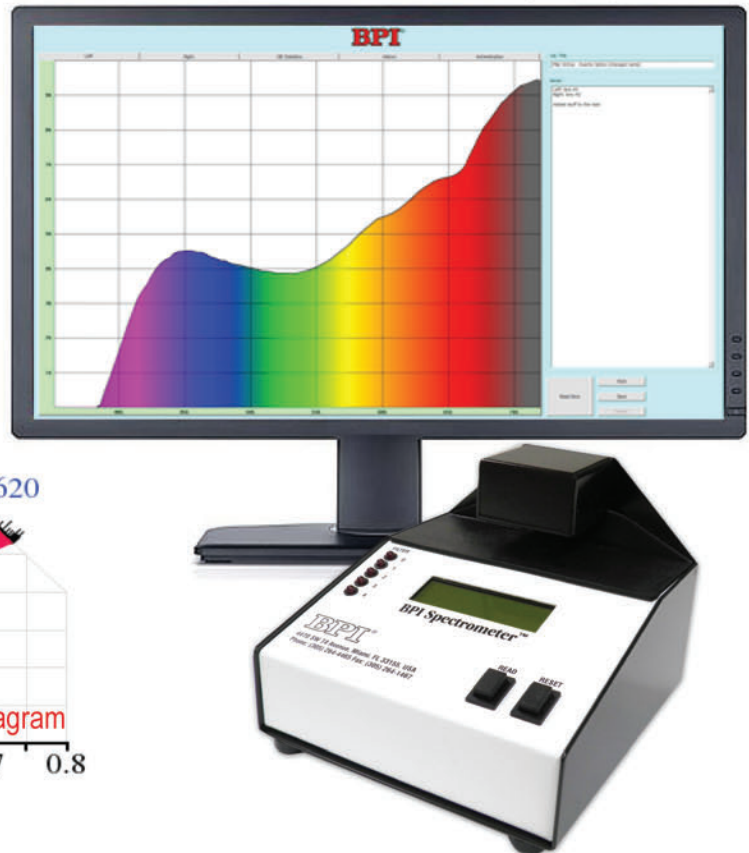
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InDispensable

Continued from page 28

Invicilites Zeta X-B, seen on page 28, is a rimless frame offered in a square shape in Gunmetal. The metal temples feature a geometric laser cutout design.

- **Colors:** Gunmetal (058)
- **Sizes:** 50-18-140
- **Special features:** metal endpiece, bridge and temples; Zyl temple tips; snap-in plug mount system.
- **List price:** \$59.95

Eschenbach introduces Vario LED Lamp Magnifier



Danbury, CT—Eschenbach's new Vario LED Lamp Magnifier is the combination of optics, flexibility, and illumination. The large, 76-mm lens provides 6.00 D (2.5x) of magnification and offers a nearly distortion-free image.

The patented cera-tec coating on the lens minimizes scratching by over 50%, extending the life of the product. The lens is surrounded by a ring of 63 surface-mount device LEDs, which produce up to 6,000 lx of brightness. Two settings can be selected: full shadow-free illumination with the entire ring illuminated, or segment illumination with about half of the LEDs illuminated which produce a beam of light.

The Vario LED Lamp Magnifier features an ergonomically shaped handle and a flexible gooseneck arm that allows the lens to tilt in many directions, ensuring an easy and precise adjustment of the magnifier to suit individual requirements. The lamp has a clamp at its base that attaches to any table up to about 60mm (2.4") in thickness. The lamp is designed to use a low level of energy consumption at only 5 Watts.

Eschenbach's new Vario LED Lamp Magnifier allows for hands-free detailed tasks, especially when flexibility is needed to view text or objects. Due to its bright illumination, it can be also be used as a stand-alone lamp.



MODEL
GU 6750



MODEL
GU 7257



MODEL
GU 7259

Guess Eyewear launches Spring 2014 sunglass collection

Somerville, NJ—Guess Eyewear presents a new sunglass collection for men and women just in time for spring. The Spring 2014 collection, which includes 6 new women's styles and 5 new men's styles, features chic shapes with unique accents.

A faceted iridescent effect is highlighted in styles **GU 7257** and **GU 7259** with 3D laser pattern temple treatments in soft contrasting colorations. This fashionable duo in soft metallic tones of black, brown, and peach has a series of Guess "G" logos etched into the temple's textural.

Mixed metal elements and soft crys-

tal color palettes define styles **GU 7315** and **GU 7316**. These styles include two-toned casted metal braided details on the temples. There is a choice of a bold rectangle shape of the **GU 7315** or a vintage butterfly silhouette of the **GU 7316**, both handcrafted in acetate and available in peach translucent, black, and tortoise/blue.

The sun collection for men features sporty, clean designs with retro elements, as seen on the classic aviator **GU 6750** and navigator **GU 6751**. The high-quality Carl Zeiss lenses are finished with gradients, rubberized temples, and brushed satin finished metals. **ODT**

Matt Geller, OD

New grad behind OptometryStudents.com

How has OptometryStudents.com changed the conversation in optometry?

We give [students] the issues of what's going on in the profession but not to a degree where they're going to become overwhelmed. We try to cover an issue with a proactive and positive voice. Even if it is something negative, there's always a way to reframe a question or reframe an issue to give people a positive and proactive way of thinking about it. The whole idea is to set them up to be involved, understand what's going on, and take the profession away from just people punching the clock, to be docs at the end of the day and hopefully just giving back a little bit more. Unless they understand what's going on, it's a lot harder for them, so that's where we come in.

Have you always been interested in writing or blogging?

Yeah, I was always interested in writing. [Laughs] I guess I got a big mouth. I like to talk, I like to discuss ideas. I used to blog and write about self-help things, positivity-related things, just ways to succeed, ways to enhance your personal and professional life. It was easy to tie that into optometry, but I've always loved writing.

How did you achieve a reach of 20K monthly visitors and 3,347 Facebook visitors for OptometryStudents.com?

I learned Web stuff. I'm not really much of a coder, but I am a brand-builder. The most important lesson I learned, which everything relies on at the end of the day, is, "Content is king." Having genuine

content leads to a genuine following. We said, "Forget the bells and whistles, let's just give students in optometry exactly what they need." And we wrote articles that really helped people. It's very easy to get a following built up, the Facebook fans are engaged, and we have a really great thing going on. We're approaching nearly 25,000 unique visitors a month.

You do all the graphics, marketing, video, and Web site admin jobs. Why don't you find more volunteers?

The graphic design and marketing and stuff like that, I think it really comes down to knowing the point we want to get across, and it's hard to develop that stuff if you don't know what you're really aiming for. There's a lot of subtleties to it that make something more genuine, and I really enjoy that part of things. I don't need to give it up at this point.

What is your favorite city?

San Diego right now. I moved out here about 7 months ago and started working with Dr. Eric White. He's just a rock-star guy, so am I super-blessed to be with him.

How has social media changed student interaction?

Everyone should be involved in some way or another. You really learn a lot from

social media. But if you really want to build connections and meet people, you got to do it in person. It's an exponential thing—the more people you meet, the more effective your next connection is, and the more people who know you, the more your name gets jumped around.

Is there a specific emerging technology that excites you?

Freedom Meditech Clearpath DS120. It looks at the crystalline lens and measures autofluorescence levels of glycosylated end products of glucose. It's looking at how much of this glucose end product is stuck to the lens. They did some clinical studies that they were able to predict diabetes 5 to 6 years prior to it happening. We've got it in our practice now. I think that's super exciting.

What would you change if you had it to do it over?

I don't think I would have done anything different. I would have stayed in New York and went to school there, I would have definitely moved to San Diego, I would have definitely worked with Dr. White. I would have definitely done everything

I've done with OptometryStudents.com. I'm blessed and everything has just worked so well, I don't have any regrets at this point.

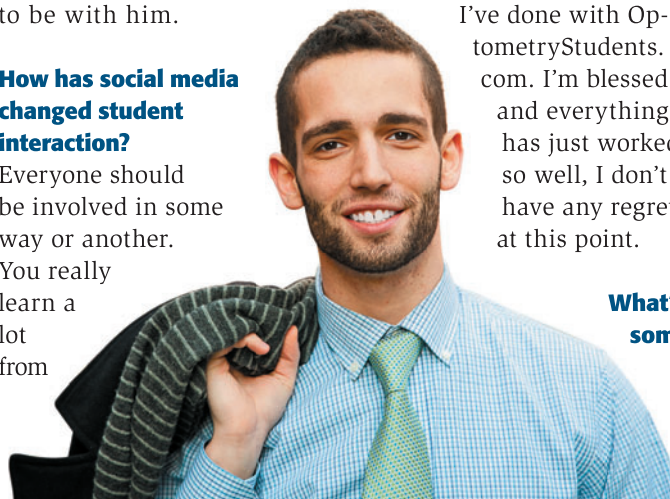
What's some-

thing that most people don't know about you?

I'm a pretty laid-back guy, and I like to hang out and stay low stress. I think about all the projects I've tackled, and at the end of the day I am super valuing free time and relaxation. That's something I will never let myself get too busy not to have. At the end of the day, what is life all about? It's about that. I just got into rock climbing, and I'm having fun with that. I cancelled the gym membership and started climbing about 5 days a week.

Do you see yourself changing your online focus as your career evolves?

We're launching NewGrad-Optometry.com in early March. This is an independent project I've started, and it's going to be the main resource for new graduates to get the information they need to succeed. We took the time to map out the things we need to do to become licensed, get on insurance plans, deciphering some of the myths and big questions, and this is going to be really, really huge. We've got about 20 or so articles up already even though the site is not live. I will still be involved with OptometryStudents.com but not as much as I used to be because I'm not a student, and we want to always keep that student voice present. Benjamin Emer is an ICO second year, and he's been the current senior editor for about a year. He's going to take up more of a leadership role. **ODT**



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COMING SOON

A NEW STANDARD FOR COLOR LENSES



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You’ll never look at color contact lenses the same way.

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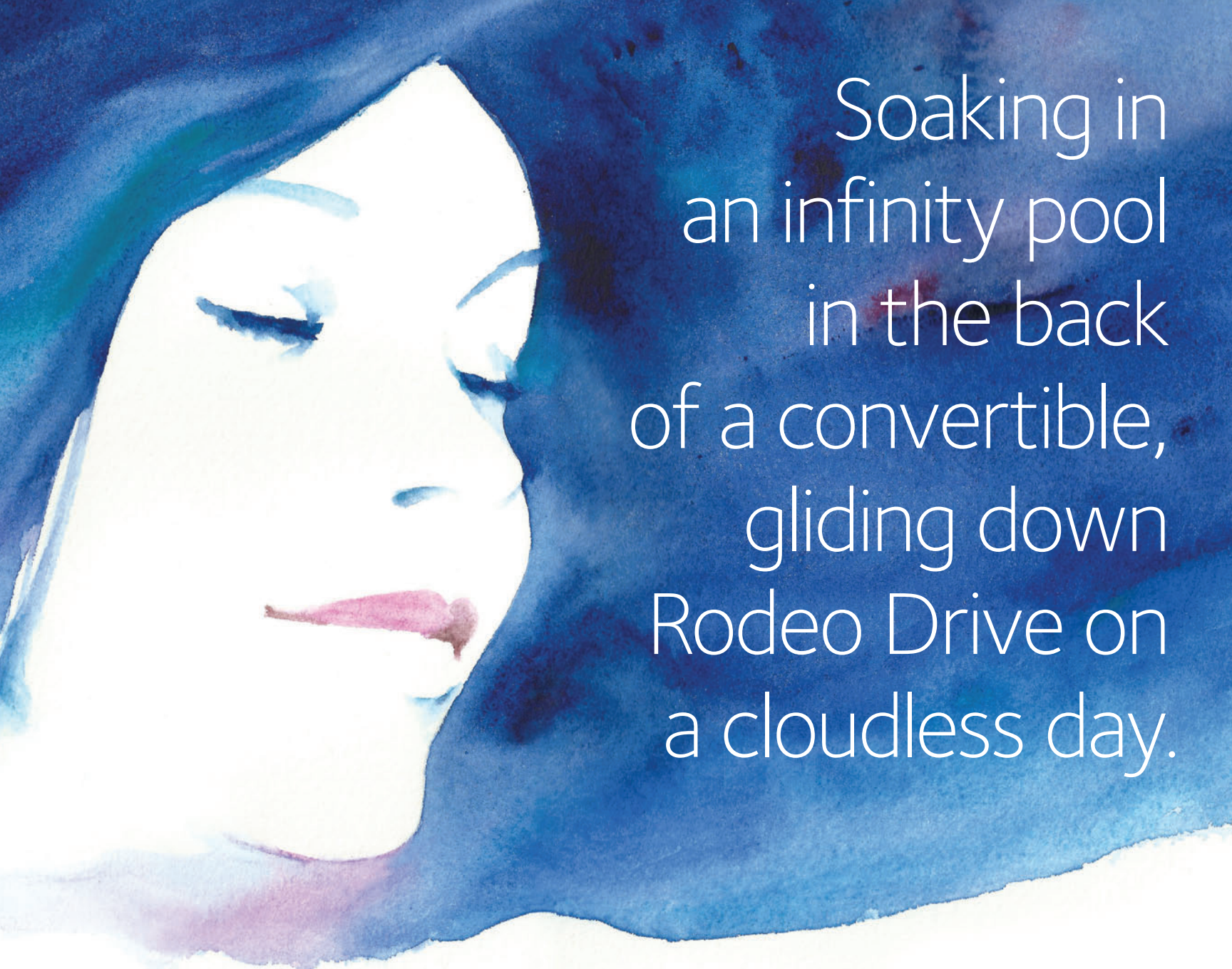
Important information for AIR OPTIX® COLORS (lotrafilcon B) contact lenses: For daily wear only for near/far-sightedness. Contact lenses, even if worn for cosmetic reasons, are prescription medical devices that must only be worn under the prescription, direction and supervision of an eye care professional. Serious eye health problems may occur as a result of sharing contact lenses. Although rare, serious eye problems can develop while wearing contact lenses. Side effects like discomfort, mild burning or stinging may occur. To help avoid these problems, patients must follow the wear and replacement schedule and the lens care instructions provided by their eye doctor.

See product instructions for complete wear, care, and safety information.

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an infinity pool
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of a convertible,
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iTech

BUILDING THE OPHTHALMIC TECH'S COMMUNITY OF PRACTICE

ENSURING PATIENT SUCCESS WITH CONTACT LENSES

KEEP YOUR PATIENTS SAFE WITH STRICT WEAR AND CARE REGIMENS

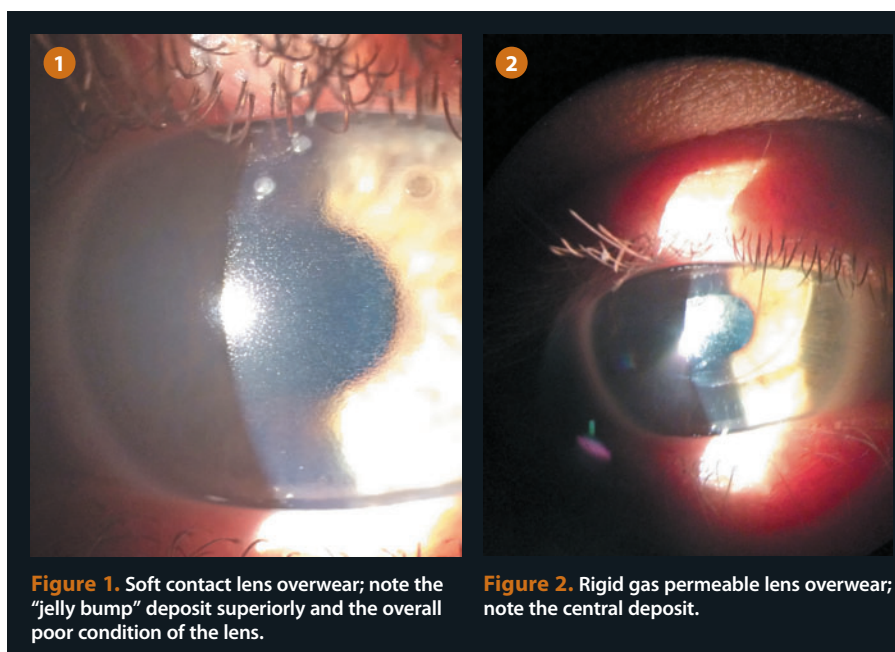


Figure 1. Soft contact lens overwear; note the “jelly bump” deposit superiorly and the overall poor condition of the lens.

Figure 2. Rigid gas permeable lens overwear; note the central deposit.

INSIDE: Contact lenses

The power of recommendation

You know what is best for your patient, and you should make the call. Don't let him make his decisions about healthy contact lens wear and care—make a recommendation. Our recommendations have a strong influence on patient choice, and they are there to promote patients' best interests.

PAGE 10

Note correction on page 14. Images were mislabeled in the Winter 2013 issue; they are shown again with correct captions.

By Ernie Bowling, OD, FAAO
Chief Optometric Editor

Contact lenses are a large part of any general eye care practice. It is one source of great pride and satisfaction when a patient new to contact lenses first sees clearly without his spectacles, and we all enjoy seeing that epiphany. Yet, like

with all experiences, the new soon wears off, and those patients who started out with the best of intentions regarding their contact lens wear and care can slip into some not-so-healthy habits. Overall rates of non-compliance with contact

lens wear and care are routinely cited as ranging from 40%-91%.^{1,2}


During the course of a busy clinic day, patients presenting for contact lens follow-up are often given the perfunctory

See **Contact lenses** on page 3

THIS IS WHY YOU CAN give your patients comfort that lasts.



ATTACHING AND
FORMING A HYDROPHILIC ENVIRONMENT
across the surface of the lens^{1,2,4}



CREATING A UNIQUE BARRIER
that reduces lipid deposition
and removes protein deposits¹⁻³



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from morning till night^{1,2,4}

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Contact lenses

Continued from page 1

vision check and slit lamp evaluation and sent on their merry way. This means some of those non-compliers may be slipping through the cracks and will continue with their bad habits—until the day they show up in the clinic with a red eye or corneal ulcer.

“An ounce of prevention is worth a pound of cure,” so the old saying goes, and the best way to prevent a contact lens adverse event is by strict adherence to established wear and care regimens. The best way to have patients comply is through continual reinforcement of good habits, and the best time to emphasize these habits is at the regular contact lens follow-up visits.

The contact lens technician can play a pivotal role in this regard, as more often than not, the tech spends far more time with the patient than the doctor—time that can be pivotal in evaluating your contact lens wearers and heading off any potential problems.

Opening questions

Before the doctor ever sees the patient, some perfunctory questions will help assess the patient’s attitude about her contact lens experience.: Some considerations:

- **Does the patient smoke? If she does, advise her to stop. Studies have shown that contact lens wearers who smoke have more problems than those who don’t.**³
- **Look at the patient’s fingernails; short and smooth fingernails help avoid damaging contact**

Contact lens patients should remember the “3 goods.” When wearing contact lenses:

1. The contact lenses should feel good
2. The patient ought to see good
3. The eyes ought to look good (i.e. no redness)

lenses or scratching the eye on lens application and removal.

- **Does the patient have any spectacles? This can become important if the patient develops some ocular irritation or redness with contact lens wear but continues to wear the contact lenses and worsen the condition all because she had no other method of vision correction. Spectacles allow the eyes to have a break from contact lens wear.**

Lens types and wear schedules

The next question is what type of contact lens is the patient wearing? Even though you may have that information in front of you in the chart, it is important for the patient to know what type of contact lens she has on her eye. I am always amazed at the number of patients who have no clue about what contact lens they are wearing, and I am not alone; a study conducted at the Centre for Contact Lens Research (CCLR) found that only half of the study participants were able to recall from memory the brand names of their habitual contact lenses.⁴

Also inquire about the

patient’s wearing schedule. Is he wearing his lenses daily wear only? If so, how many hours per day are the lenses on the eye? Is he wearing the lenses for extended wear? If so, how many days continuously is he wearing the lenses? It is also confounding to find that patients often wear a lens designed for strict daily wear for extended overnight periods. A recent study reported that 6% of contact lens patients wear their lenses overnight, despite being advised to wear them for daily wear only.⁵ Many times the patient will be hesitant to admit to overnight wear, yet if the question is asked in a non-confrontational way, the patient will often confess to extending his contact lens wearing schedule. I often remind patients who are sleeping in their lenses that this practice is associated with a 10-fold increased risk of microbial keratitis over contact lenses worn as strictly daily wear.⁶

Lens replacement

Likewise, patients should be asked about their replacement regimen. Many patients will wear their contact lenses beyond the recommended replacement schedule. It has been well established that lens replacement is the most commonly reported aspect of contact lens non-compliance.⁷ There are as many excuses for the practice as there are contact lenses on the market. Some feign forgetfulness, some ignorance, and some will tell you they see no reason “to throw away a perfectly good contact lens.” I often liken this to the “last razor” analogy. I am pretty good about replacing my disposable razors regularly, but that last one

See **Contact lenses** on page 4

“An ounce of prevention is worth a pound of cure,” so the old saying goes, and the best way to prevent a contact lens adverse event is by strict adherence to established wear and care regimens.

▶
**11%-
49%**

**of patients
always fail to
wash their hands
before handling
their lenses¹¹**

Contact lenses

Continued from page 3

in the package seems to last about twice as long as the others.

Replacing contact lenses at recommended intervals allows for better comfort. A study conducted by the Centre for Contact Lens Research shows that silicone hydrogel lens patients who are compliant with manufacturer-recommended replacement schedule have better comfort and vision at the end of the day than noncompliant patients.⁸ Using lenses beyond their recommended replacement schedules has been associated with a 4-fold increased risk in infections compared with lenses replaced at appropriate intervals (see Figures 1 and 2).⁹

It doesn't hurt to remind your patients that contact lenses are medical devices and are regulated by the U.S. Food and Drug Administration—they aren't buying shoes here. Smartphone-based applications and electronic reminder services are a great way to help tech-savvy patients remember when to replace their lenses. Acuminder from Acuvue lets patients sign up for free text messages or e-mail reminders to change their lenses or schedule an appointment.

In addition to wearing times and replacement schedules, inquire about other high-risk habits. Does the patient shower in her lenses? Wear them swimming or in a hot tub? I don't

ever recommend patients swim in their contact lenses or wear them when showering or in a hot tub. Many patients are surprised at that recommendation. Knowing that many will not comply with that recommendation, I suggest they use protective goggles and, immediately after swimming, remove and clean their contact lenses before wearing them again.

Lens care

Regardless of the type of lens worn and the wearing schedule,

proper lens care is essential to maintaining good ocular health. The patient should be asked about her lens care regimen. I find this to be a huge area of non-compliance. While many patients can't tell you what brand of lens they are wearing, fewer still can tell you the brand of contact lens cleaning and storage solution they use.

A visual aid may be helpful. Our office keeps a display of various contact lens solutions—if the patient has no idea about her care system, she will be asked if one in our display is the brand she is using. In many cases, it is not the brand recommended at the time the lenses are dispensed. Patients may start out with good intentions and follow the doctor's recommendations at the onset but quickly switch to an off-brand or generic due to cost considerations. Again, it is helpful for ancillary staff to gently remind the patient that the doctor has recommended a particular

brand of solution based on the patient's needs and suggest the patient adhere to the doctor's recommendations.

The doctor's recommendation is important. Studies have shown that patients are more likely to comply if the doctor has made a strong recommendation—not only about solutions but wearing times and replacement schedules.¹⁰ Does the patient wash his hands before handling contact lenses? It sounds like a

See **Contact lenses** on page 6

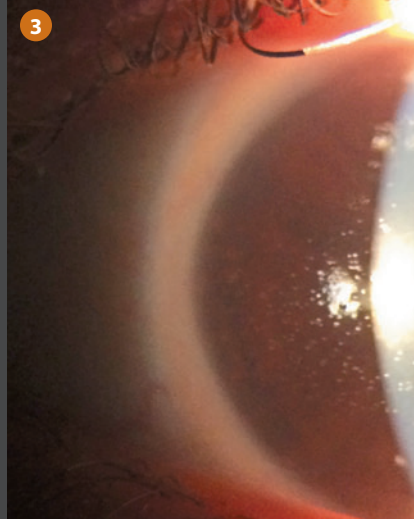


Figure 3. Contact lens from a patient presenting with an infectious corneal ulcer.



Figure 4. Contact lens-related Staph corneal ulcer.

Today, she presents
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the time she is diagnosed?

For millions of dry eye patients,
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sign of a progressive autoimmune
disease.^{1,2}

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Ophthalmic Diagnostics

Sjögren's
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▶
**40%-
75%**

**of contact lens
wearers fail to
rub and rinse
with their
multi-purpose
solutions¹²**

Contact lenses

Continued from page 4

no-brainer, but, again, take nothing for granted. Between 11%-49% of patients always fail to wash their hands before handling their lenses;¹¹ and there is a 1.5-times increased risk for developing microbial keratitis and 2-times greater risk for developing sterile keratitis in patients who fail to wash their hands.^{3,6} Recommend the patient use a non-cosmetic soap because soaps with oils or lotions in them can transfer to the contact lens and cause irritation on lens application along with blurred vision.

Is the patient using the solution properly? Does the patient rub and rinse his contact lenses daily with the recommended solution (not water or—God forbid—saliva)? Tap water should

never come into contact with soft contact lenses, and saliva contains numerous microbes that can lead to an ocular infection. If I had a nickel for every time I've heard a patient say, "But the bottle says, 'no rub,'" I'd be a rich man. My standard answer: "no rub" doesn't mean no rub. Fortunately, most multi-purpose solutions no longer advertise "no rub."

Have the patient demonstrate how he cares for his lenses. Ask the patient to clean each lens by rubbing it gently with his index finger in the palm of his other hand, then rinsing the contact lens before placing it in the storage case. This "rub and rinse" cleaning method is sufficient with most multi-purpose solutions in use, yet not all patients perform the practice. Some 40%-75% of contact lens wearers fail to rub and rinse with their multi-purpose solutions.¹² Do not allow

the tip of the solution bottle to come into contact with any surface, and instruct the patient to keep the solution bottle tightly closed when not in use. Likewise, patients need to understand that sterile saline is not a disinfectant, nor are contact lens rewetting drops.

Speaking of solution, is the patient dumping the solution out daily and using fresh solution or simply "topping off" the solution in the case? A reported 22% of wearers top off their lens case occasionally, frequently, or almost every night.⁴ In an attempt to save money, this practice is one shown to contribute to ocular infections.¹³ Old solution should never be re-used.

Also, remind patients that transferring solution from one container to a smaller-travel size container should be discouraged. This is another compliance concern that is often neglected in lens care while traveling, and it has been identified as a risk factor for infection among contact lens wearers. Restrictions on liquids in carry-on luggage when flying mean that re-usable lens wearers may be tempted to transfer solutions into smaller containers. Such a transfer can affect the sterility of the contact lens care solution. Use the smaller size bottles of solution when travelling. If hygiene is difficult to ensure, consider refitting the patient into a daily disposable lens.

Be sure patients inspect their lenses before application. Patients should look for nicks along the lens edge, torn lenses, or visible breaks. Damaged lenses can damage the eye, so advise patients to discard the lens and use a fresh one.

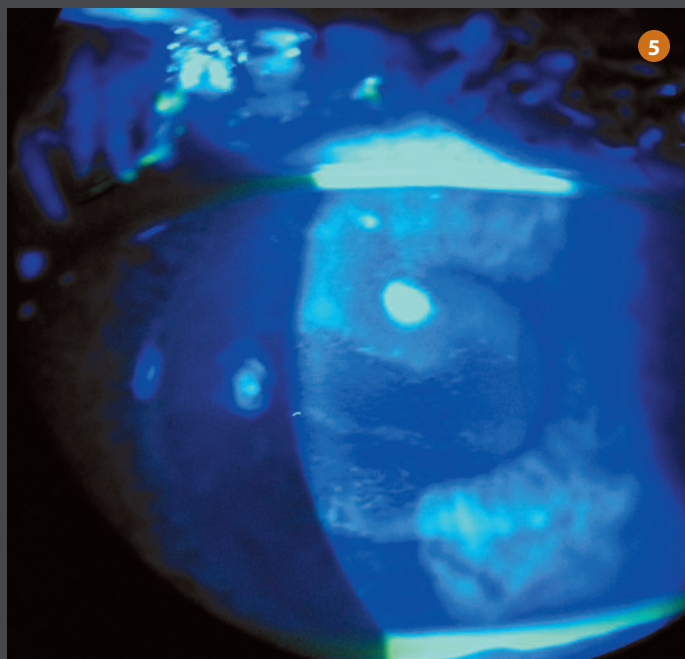


Figure 5 Microbial keratitis.

Lens case

Of all the components of contact lenses, lens cases represent the most common source of contamination and have been shown to include a host of pathogenic microorganisms, including bacteria, amoeba, and fungi.¹⁴

So, we need to ask our patients about their lens storage case. Do they ever clean it? Some 61%-79% of contact lens wearers fail to clean their case daily (see Figure 3).¹⁵ The storage case should be rinsed out daily with storage solution—never water—then wiped with a clean tissue and allowed to air dry. Because *Acanthamoeba* cysts may be present in tap water and can survive for years after drying,¹⁶ I recommend using only contact lens disinfecting or multi-purpose solution for this step. Recent studies suggest that wiping your case with a clean tissue and/or placing it upside-down on another clean tissue may be additional good steps in keeping bacteria biofilms off the case.^{15,17}

Does the patient regularly replace her storage case? Storage cases should be replaced every 1-3 months or if the case is damaged or cracked. One surefire way to see how well the patient manages her contact lenses is to ask the patient bring in her contact lenses, solutions, and storage case when she comes in to the office for her appointment. Much like your medical doctor wants you to bring in your medications at your physical exam, asking the patient bring in her contact lens paraphernalia can show how diligent she is in caring for her lenses.

Wear and care handouts

There is no statistically

significant difference between patients receiving both verbal and written instructions and those receiving only oral instructions.¹⁸ But it is best to give the patient a double dose of positive reinforcement, not only with the spoken word but with a nice handout outlining the patient's lens type, the recommend lens wearing schedule, and the recommended solution type. Keep a copy of these recommendations in the patient's chart—that way patients can't say they haven't been warned. Failure to follow recommendations and poor hygiene can increase the risk of ocular infections such as microbial keratitis. Examples of handouts are available online from the American Optometric Association or the Association of Contact Lens Educators.

If a patient is noncompliant, often this reinforcement of his wear and care will return him to healthy habits. For those who it doesn't, perhaps it is time to change lens type to a daily disposable. In terms of reducing the risk of infection, single-use daily disposable lenses are the safest type of soft contact lens.

What to do when the eye is red

My staff and I tell patients to remember the "3 goods" when wearing their contacts. With the lenses on their eyes:

1. The contact ought to feel good
2. The patient ought to see good
3. The eyes ought to look good, i.e., there should be no redness.

The next point for the patient to remember is if one of these "3 goods" isn't good, she should immediately remove the contact lens and call her

eyecare practitioner. This may seem like a no-brainer, but there is an astounding number of patients who present with an adverse event that started out as a minor redness or irritation, but progressed to something far more serious because the patient continued to wear the contact lens (see Figure 4), often because he had no spectacle back up. The contact lens acute red eye (CLARE), which can result from lens wear, has a variety of causes, including an improper fit, lens deposits, damaged lenses, corneal hypoxia, an allergic reaction to lens care solution ingredients, ocular allergy, dry eye, and, in the worst case scenario, infectious keratitis. Eye infections, while infrequent, can be devastating, preventing patients from wearing their contact lenses for extended periods and can result in permanent corneal scarring and vision loss (see Figure 5).

Safe and successful lens wear

Contact lenses are among the safest forms of vision correction when patients follow the proper wear and care instructions. Fortunately, even with high rates of contact lens noncompliance, the incidence of severe complications associated with contact lens wear is relatively low. Why do patients not comply with your instructions? They either:

- Haven't understood what they've been told
- Choose to ignore what they've been told, thinking nothing bad is going to happen to them
- Forgot what they've been told

Compliance, however, is the key to long-term successful lens
See **Contact lenses** on page 8

61%-79%

of contact lens wearers fail to clean their case daily

23%

of patients were unable to later recollect seeing any information regarding the risks and complications associated with lens wear¹⁹



Dr. Bowling is chief optometric editor of Optometry Times.

Contact lenses

Continued from page 7

wear. Our patients' single best way to avoid eye infections and protect their eyes is to follow recommended lens wear and care guidelines. In particular, the guidelines should include performing a "rub and rinse" step in the lens cleaning process, reducing contact with water while wearing contact lenses, and replacing the lens case frequently.

Recommendations have to be ongoing and continual at each and every visit because patients forget. One study reported that while 88% of patients were given lens care information, 23% were unable to later recollect seeing any information regarding the risks and complications associated with lens wear.¹⁹ To maximize compliance, both verbal and written information should be given and key aspects reinforced during follow-up visits to prevent any misunderstanding.²⁰

The patient who chooses to ignore a recommendation will likely show up with what I affectionately call the "positive washcloth test," a compress over her eye to lessen the pain and photophobia from her contact lens-related infectious corneal ulcer. I am not above telling these patients that this severe complication from their contact lens abuse is going to keep them out of contact lenses for a prolonged period of time; cost them a tremendous amount of money in office visits, medications, and lost wages; and it all may have been prevented if they had only adhered to the recommended wear and care schedule.

I have noticed this discussion

regarding the costs of abuse seems to hit home, or perhaps, it's just that the patient doesn't want to go through that pain again. While the focus of the contact lens follow-up visit is to ensure good vision and ocular health with contact lens wear, our job as eyecare professionals is to constantly reinforce good lens wearing habits and lens care so our patients can enjoy a lifetime of safe, successful contact lens wear.■

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The power of recommendation

Knowing what's best for your patient and making the call

By Martin Carroll, OD, FAAO

There is significant healing power in the doctor-patient relationship. If we work together in these relationships, significant improvement can occur to our patient's quality of life and health status.

The word "fiduciary" is derived from the Latin word for "trust." This "trust" is the basis for the doctor-patient relationship. The bond between the doctor and patient is vital for a successful diagnostic and therapeutic outcome. The patient can trust that communication about her health and her condition is held in confidence and that the doctor follows accepted codes of professional ethics.

The doctor-patient relationship has evolved over the centuries from a paternalistic interaction into a more modern shared decision-making model. This modern model allows for patients to be autonomous and express their views and choices, including no treatment. We must remember that our patients filter our instructions through their existing belief system before coming to a final action.

In the patient's best interest

Remember that competent patients have a right to refuse care, and we must respect their decision. However, under vision- or life-threatening situations, we must strongly encourage specific actions, especially treatment that carries little risk. We can gently persuade the patient by educating him of the harm in avoiding or denying treatment.

Some experts suggest that patients should be the primary decision makers in their own health care and that doctors should not make treatment recommendations, including allowing patients to make their own choice¹ and that doctor's recommendations can be influenced by industry.² However, our recommendations have a strong influence on patient choice³ and are there to promote patients' best interest.⁴ Cognitive patient biases affect the choices they make that are contradictory to their own best interest.^{5,6} Our recommendations can potentially help our patients overcome these biases.

When people make decisions for others, they hone in on the most important aspect of the decision and are less swayed by other factors that could bias the decision.⁷ This confirms how important our recommendations are.



Dr. Carroll graduated from the Southern California College of Optometry and has been in private practice since 1981. He is a member of the Wyoming Optometric Association, the American Optometric Association and the American Academy of Optometry. He is an adjunct assistant professor for the Illinois College of Optometry and adjunct clinic professor for Western University College of Optometry. Dr. Carroll is a Diplomate of the American Board of Optometry.

In the contact lens arena, we have a vast array of contact lens options and modalities to choose from, and the proper contact lens wear and care regimen ultimately depends on our patients following our instructions. Frank recommendations are often required so that our patients' contact lens wear is safe, comfortable, and successful.

The power of a recommendation is often undervalued or overlooked.

How many times have you heard a patient say he is not complying with the practice's written orders for contact lens wear and care, only to discover that the problem is you? I admittedly have. Knowing that one third to one half of patients fail to follow a doctor's written orders^{8,9} makes the process of recommending vital to a patient's health. Years ago, I found that bringing a personal touch to my patient relationships allows me to better connect to the patient and enhance my recommendations and my written orders.

I believe that compliance can be vastly improved by allowing patients to share in the decisionmaking for their condition following my recommendations. For example, I might say, "I know that it may be hard to change your lenses at exactly every 2 weeks as I have prescribed. Let's talk about what happens when you don't change your lenses and come up with a solution together. I would suggest that you change them on the first and fifteenth of the month."

While some may argue that patients can choose wisely,¹⁰ I cannot reiterate enough how important it is to make

Making a successful recommendation

A successful recommendation begins with:

- Reducing barriers to communication
- Establishing a comfortable environment for doctor-patient interaction
- Small talk to connect on a personal level
- Focus on the patients' needs

recommendations that ensure healthy contact lens care and wear and not leave it up to our patients to make their own decisions. Otherwise, why would they need us?

Obviously, there is a reason contact lenses are regulated as medical devices and their distribution restricted to licensed professionals, by the Food and Drug Administration (FDA). We know that civil penalties of up to \$16,000 per violation can be assessed for the illegal sale of contact lenses. I am preaching to the choir when I say that contact lenses are a prescription device that if fit, worn, used, and taken care of incorrectly can lead to grave outcomes. The challenge is to convey this to our patients.

Building trust to increase compliance

Our patients can have safe and successful contact lens wear if we provide full-service care and they adhere to our prescribed orders. A few of those orders being:

- Lenses
- Care system
- Hygiene
- Wearing schedule
- Lubrication

- Environment
- Replacement schedule
- Comprehensive eye examination schedule
- Cases
- Follow-up
- Seek care when certain symptoms occur

Let me give you a common scenario that many of us face daily: you prescribe contact lenses but fail to prescribe the care system, specific wearing schedule, specific replacement schedule and/or follow-up. Your patient ends up in the emergency department with a central corneal ulcer. That was your fault.¹¹

Our patients are best served when we are proactive with recommendations.

A successful recommendation begins with:

- Reducing barriers to communication
- Establishing a comfortable environment for doctor-patient interaction
- Small talk to connect on a personal level
- Focus on the patients' needs

To facilitate open communication, some techniques are:

- Sit down
- Lean forward when listening
- Listen without interrupting
- Make eye contact
- Acknowledge feelings
- Explain, educate, and reassure
- Ask if you covered everything and if patients have any questions
- Be sincere

We have all seen the tragic events that occur when a patient does not follow our

See **Recommendation** on page 14

I am preaching to the choir when I say that contact lenses are a prescription device that if fit, worn, used, and taken care of incorrectly can lead to grave outcomes. The challenge is to convey this to our patients.

Nutrition's role in eye care

Why diet and lifestyle should be part of the exam room conversation

By **Steven M. Newman, OD, CNS**

What are some common questions our patients expect to hear from us? "How is your vision? Which is better, one or two? How many nights out of the average month do you sleep in your contact lenses?" Sure, these are the easy answers, but when is the last time you surprised your patient with a question about his diet? With all the information available on the benefits of vitamins and supplements, how many of us have changed our case history questions to reflect the times?

We all have patients suffering from cardiovascular diseases like hypertension, diabetes, and heart disease. We all ask our diabetic patients what their last fasting blood sugar measurement was; why not qualify this number with the food intake for the prior 24 hours? Diet and healthy lifestyle choices play significant roles in the treatment of cardiovascular diseases that affect the eye. We inquire about prescription medications, but medicine falls into the category of "what the doctor can do for them." Who's asking the questions about "What are you doing for yourself?" Optometrists and their staffs are in a unique position to ask the proper questions, then form an educated

opinion after evaluating critical blood flow to and in the eye.

To be proactive, patients need to be asked a few direct questions, then commit to make small lifestyle changes.

Picture this scenario: a patient goes to his doctor and finds out his cholesterol is high, putting him at risk for heart disease. Instead of recommending eating better and incorporating mild exercise into his life, his doctor has recommended a statin drug. Three months later, the patient's cholesterol numbers are much better, but he doesn't have the energy to get off the couch and walk around the block. This leads to the common case of "healthier blood work/unhealthier patient." We can't place all the blame on the physicians—after all, they've been talking about healthy lifestyle habits for decades, and most patients simply don't want to listen. We've all been out with friends or relatives who would rather eat more now only to take an extra pill later. Breaking down these mental barriers may be futile, but impressing upon our patients the vital role their active participation plays in their own health can often have a more positive, personal result.

Doctor's orders: a healthy diet

The Phototrope study concluded

that ubiquinone (CoQ10) combined with omega 3s and acetyl L-carnitine, can slow down or actually reverse early, dry macular degeneration¹ (see Figure 1). The best way to get these is by allowing our bodies to produce the CoQ10 uninhibitedly while consuming the omega 3s and acetyl L-carnitine in a natural manner with proper food. It's been documented how statins, a widely-used cholesterol medication, hinder the liver's ability to produce CoQ10, the fuel source for our cells' mitochondria.²

Research confirms the reasons why optometrists and their staff should routinely discuss diet and lifestyle with patients. Areas of studies that have shown beneficial cardiovascular outcomes include:

- Cinnamon³
- Vitamins⁴
- Exercise⁵
- Yoga⁶
- Meditation⁷

Popular television shows, like Dr. Oz, combined with the plethora of information available to anyone with an Internet connection, has increased both knowledge and confusion in our patients' minds. Their general practitioners are spending less and less time with them,



Dr. Steven Newman combines his knowledge as an optometric physician, certified personal trainer, and board-certified nutrition specialist to educate his patients and the public on the importance of a healthy lifestyle. With more than 25 years in the health profession, Dr. Newman has advised thousands of patients on health, medicine, nutrition, supplements, and overall well being. E-mail him at drstevennewman@yahoo.com.

and they may or may not not feel comfortable talking to a technician about their vitamins. And consider that chiropractors have been routinely discussing vitamins with their patients for years, but chiropractors don't see the same demographics of patients that eyecare practitioners do, limiting impact on the general public.

Sooner or later, we all need an optometrist. The impact we and our staffs can have on the future landscape of health care in America can stretch further than previously thought. During a 2004 meeting of the Florida Optometric Association's Regional Board of Directors in Tampa, FL, Leonard Carlson, the former head legal counsel for the Florida Optometric Association, was asked if ODs were putting their licenses at risk for discussing vitamins with their patients. His response may surprise you: "With all the studies concluding the benefits of vitamins and supplements in relationship to eye health, my opinion is that any optometrist *not* discussing vitamins and supplements with their patients is putting their license at greater risk."■

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Figure 1. Early dry AMD with fluorescein.

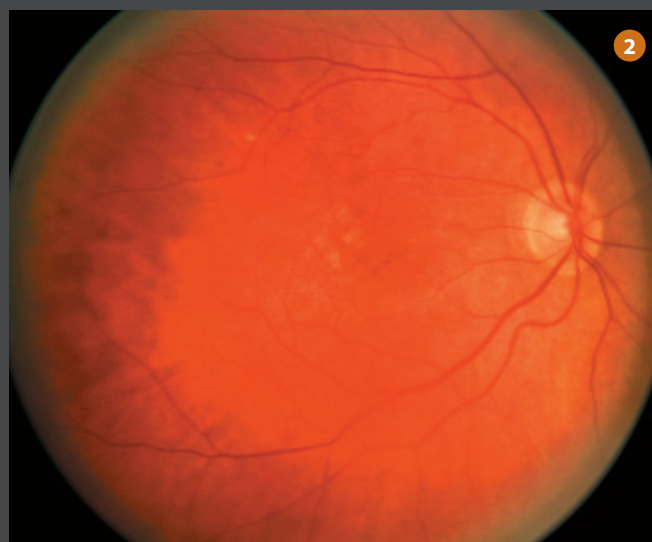


Figure 2. Early dry AMD

(Photos courtesy Harlin Sindu, OD, and Burton Wisotsky, MD)

Sooner or later, we all need an optometrist. The impact we and our staffs can have on the future landscape of health care in America can stretch further than previously thought.

Recommendation

Continued from page 11

recommendations and ruins his vision for a lifetime.

It is of utmost importance that we and our staffs make proper recommendations for our contact lens patients so they comply with our written prescription orders.

You know what is best for your patient, and you should make the call. Don't let them make their own decisions about healthy contact lens wear; recommend.■

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CORRECTION: IMAGES IN THE WINTER 2013 ISSUE WERE MISLABELED. CORRECT IMAGES AND CAPTIONS BELOW.

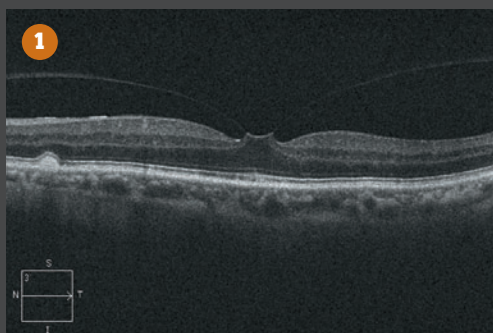


Figure 1
VMA pretreatment 3 months prior to treatment.

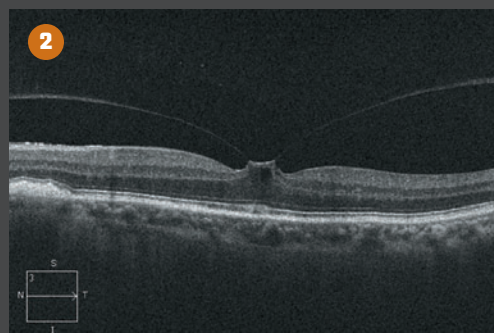


Figure 2
VMA day of treatment with Jetrea.

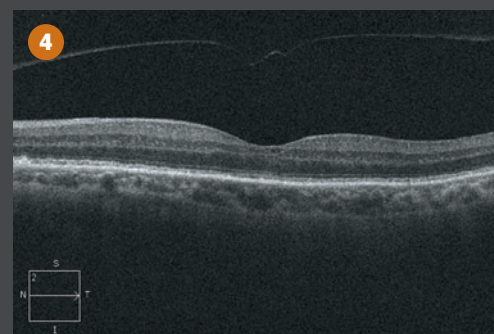


Figure 3
One week after treatment with Jetrea. Note macular edema.

Figure 4
One month after treatment with Jetrea. Note resolution of VMA and macular edema.

Images courtesy of Mark E. Tafoya, OD, MD

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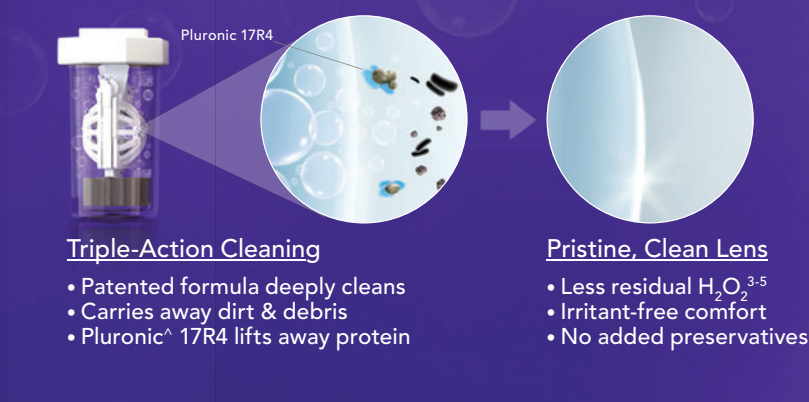
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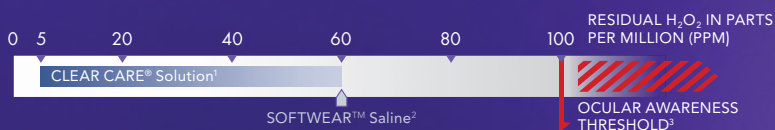
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