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NBEO unveils board certification

Program emphasizes maintenance of certification

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

The National Board of Examiners in Optometry (NBEO) recently launched a program to offer board certification to optometrists, with the first test taking place in March 2014.

A new non-profit entity, NBEO-Board Certification, Inc., (NBEO-BC) was created to grant board certification. The company worked with the NBEO to develop the Continued Professional Development in Optometry (CPDO) exam.

"There has been confusion for a number of

See **NBEO**on page 6

2014 NBEO CERTIFICATION REQUIREMENTS

All NBEO board certified optometrists must agree to participate in the NBEO-BC maintenance of certification program.

TPA-certified optometrists interested in NBEO board certification must fulfill one NBEO exam passage requirement and one experience-related requirement.

NBEO EXAM PASSAGE REQUIREMENTS

GRADUATING

- EARLIER THAN 1987 — passed NBEO Parts I, II (or IIa or IIb), TMOD, and take CPDO within 3 years
- 1987-1993 — passed NBEO Parts I, II, TMOD, and take CPDO within 4 years
- 1994-2014 — passed NBEO Parts I, II, III, TMOD, and take CPDO within 6 years
- 2015 & BEYOND — passed NBEO Parts I, II, III, TMOD, Injections, and take CPDO within 7 years

EXPERIENCE-RELATED REQUIREMENTS:

- Complete 3 years of active practice
- Attain a score of 450 or above on all NBEO Parts I, II (IIa or IIb) and III, PLUS 2 years of active practice
- Complete a 1-year ACOE accredited residency

Study: long-term use of oral contraceptives may lead to glaucoma

By Colleen McCarthy
Content Specialist

According to a recent study, women who have taken oral contraceptives for 3 or more years are twice as likely to suffer from glaucoma.

The study, which was conduced by researchers at University of California, San Francisco; Duke University School of Medicine; and Third Affiliated Hospital of Nanchang University, Nanchang, China, which was presented at the American Academy of Ophthalmology meeting in New Orleans, used data from 2005-2008 from the National Health and Nutrition Examination Survey (NHANES). The study included 3,406 female participants from the United States, ages 40 and over, who completed the NHANES's vision and reproductive health questionnaire, and underwent eye exams. The study found women who used oral contraceptives for longer than 3 years are 2.05 times more likely to be diagnosed with glaucoma.

women who used oral contraceptives for longer than 3 years are **2.05 TIMES** more likely to be diagnosed with glaucoma.

The study did not confirm that the birth control pills directly caused the women to develop glaucoma. The researchers speculate lower estrogen levels, caused by the birth control pills, might be connected to the increased glaucoma risk because the hormone may have a protective effect on the retina.

"This is certainly a startling and concerning revelation in this study of over 3,000 healthy women," says Ben Gaddie, OD, FAAO, in Lexington, KY, and *Optometry Times* Editorial Advisory Board member. "Although the study doesn't conclude that oral contraceptive use by women causes glaucoma, doubling of the incidence rate of glaucoma deserves a prospective trial to determine the real impact of oral contraceptives in glaucoma. I would be interested in seeing the actual data to determine if age has any impact on the rate independent of oral contraceptive use. We know that increasing age is a primary risk factor for glaucoma development. Were the older women participants more at risk than the 40-year-old women? The peer-reviewed publication, when published, should give other researchers a clue for future investigation. In the meantime, I'm not convinced that extraordinary screening measures should be adopted for women with a history of oral contraceptive use because the causative relationship is not established as of yet."**ODT**

The Special Section features IOP as a cornerstone of glaucoma management and PXF as a risk factor for cataract surgery. SEE PAGE 16

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Optometry Times is an optometry-driven publication that disseminates news and information of a clinical, socioeconomic, and political nature in a timely and accurate manner for members of the optometric community.

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

- Being a forum for optometrists to communicate their clinical knowledge, insights, and discoveries.
- Providing management information that allows optometrists to enhance and expand their practices.
- Addressing political and socioeconomic issues that may either assist or hinder the optometric community, and reporting those issues and their potential outcomes to our readers.

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NBEO

Continued from page 1

years," says Jack Terry, OD, PhD, president of NBEO-BC, and executive director of NBEO, speaking exclusively to *Optometry Times*. "We know that a large number of optometrists have felt that they are board certified purely because they had passed NBEO Parts I, II, and III and Treatment and Management of Ocular Disease (TMOD). The National Board has felt that board certification without a significant maintenance of certification program is an inappropriate alignment."

As the National Boards currently stand, optometrists are not required to reassess their knowledge after passing Parts I-III and TMOD. Instituting the CPDO exam will give optometrists the opportunity to stay current with changes in optometric knowledge.

Says Terry: "The impetus behind this board certification is to acknowledge the currency of having passed the National Boards Parts I, II, III, and TMOD and that there is a certain shelf life of knowledge that has been assessed. Right now, there is no reassessment ever through NBEO. There is no maintenance of certification. There is no way to give individual optometrists insight via an intermittent diagnostic report on how well they've done in keeping up with the science of optometry. This new program will solve some of those awkward issues."

Maintenance of certification will be required every 7 years for ODs certified under NBEO's program. In addition to knowing passage or failure, optometrists taking the maintenance exam will know strengths and weaknesses of 9 assessment topics. Such information will allow ODs to tailor ongoing continuing education to bolster areas of weakness.

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>
> Jack Terry, OD, PhD

The CPDO exam carries a $500 fee and will be administered at more than 200 testing centers across the country. The first test is scheduled for March 3, 2014, and another date is planned for the third quarter of 2014. Moving forward, the number of exam dates per year will increase as demand grows.

NBEO and NBEO-BC announced the new board certification program via its Web sites. NBEO is in the process of sending letters and e-mails to its members with information.

Requirements for board certification

According to the NBEO-BC Web site, TPA-certified optometrists interested in NBEO board certification must fulfill one NBEO exam passage requirement and one experience-related requirement.

NBEO exam passage requirements:

- ODs graduating earlier than 1987: passed NBEO Parts I, II (or IIa or IIb), TMOD, and take CPDO within 3 years
- ODs graduating 1987-1993: passed NBEO Parts I, II, TMOD, and take CPDO within 4 years
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Experience-related requirements:

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- Attain a score of 450 or above on all NBEO Parts I, II (IIa or IIb) and III, PLUS 2 years of active practice
- Complete a 1-year ACOE accredited residency

All NBEO board certified optometrists must agree to participate in the NBEO-BC maintenance of certification program.**ODT**

In Brief

January is National Glaucoma Awareness Month

Chicago—Prevent Blindness and other eye health organizations have declared January as National Glaucoma Awareness Month. Prevent Blindness seeks to educate the public on the second leading cause of blindness, following cataracts, by providing free resources through its Glaucoma Learning Center.

Glaucoma risk factors include:

- **Age.** Those who are 40 and older are more likely to develop glaucoma. The older you are, the greater your risk.
- **Race.** People of African or Afro-Caribbean heritage are more likely to develop glaucoma than the rest of the population. They are also more likely to develop glaucoma at a younger age.
- **Family history.** If you have a parent or sibling who has glaucoma, you are more likely to develop the disease.
- **Diabetes.** People with diabetes have a higher risk (40 percent) of developing glaucoma.
- **Myopia.** People who are very myopic are at greater risk.
- **Eye injury or surgery.** Those who have had eye surgery or eye injuries may develop secondary glaucoma.
- **Steroid medication.** Steroids may increase the risk of glaucoma when used for extended periods of time.

Prevent Blindness has recently put together free fact sheets, ***www.preventblindness.org/health-insurance-and-your-eyes***, for your patients to help answer common questions about health insurance coverage for glaucoma, the Affordable Care Act, and eye care.

According to the 2013 Cost of Vision Problems: The Economic Burden of Vision Loss and Eye Disorders in the United States report, ***http://costofvision.preventblindness.org/***, glaucoma and disorders of the optic nerve annually cost $5.8 billion, with an annual per-person treatment cost of $2,170.

AOA announces interim staff leadership

Washington, DC—The Board of Trustees of the American Optometric Association (AOA) has named Jon Hymes as interim executive director and Renee Brauns as interim deputy executive director.

For the last 9 years, Hymes has served as director of the organization's Washington, DC, office. Brauns joined the AOA in 1999 and has been chief operating officer since 2010, overseeing the 7 groups and centers based at the headquarters in St. Louis.

The interim appointment of Hymes and Brauns takes effect with the departure of current Executive Director Barry Barresi, OD. The AOA plans to undertake a thorough search to select a permanent executive director.**ODT**

Optometrist, care for thyself

Ernie Bowling, OD, FAAO
Chief Optometric Editor

It is human nature to ignore our mortality. I also know running a small business like most of us do, we have our eyes on temporal problems: payroll, staff, insurance. What gets neglected most often is ourselves. Which is really ironic as we're often concerned with investing in our practice, when in truth the most important asset in our practice is us!

I read an article in the *New York Times* detailing how doctors prepare for end-of-life differently than the general public.[1] I don't want to get all morbid here, but the piece got me thinking about decisions I had not made because I've been just too dadgone busy. That's my excuse, and I'm sticking to it.

Are we neglecting our own health in caring for others? When was the last time you had a complete physical exam, with blood work and the probing in all the uncomfortable places? Let's go even further: when was the last time you, eye doctor, had your eye pressures checked and a dilated retinal exam? It's like the flight attendant tells us during the pre-flight safety briefing: put your oxygen mask on first before placing one on others!

Procrastination aside, we need to consider more grim end-of-life issues. Do you have a will? You're not alone if you said no. Between half and two-thirds of American adults don't either.[2] A will is the only way to ensure your assets are distributed according to your wishes. Even if you've told your family how you want your assets handled, without a will, a probate judge decides your estate, and the government takes a big chunk. Do you have dependent children? A will ensures you choose their guardian. Do you have a living will or power of attorney in case your end doesn't go the way you had envisioned? Spare your family this burden by making these decisions now, instead of leaving them for what will be a difficult and emotional time.

We are all very concerned when it comes to providing the best care for our patients, but we need to care for ourselves first so we can continue to care for our patients. Why not resolve here in the New Year to care for yourself? Go get the 20,000-mile checkup. Call an optometrist friend and swap out eye exams. Call your attorney and take care of these legal issues. You'll feel much better once you do. I know I did.**ODT**

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We're all in this together

Katherine M. Mastrota, MS, OD, FAAO
Associate Optometric Editor

I really enjoy being an optometrist and would wager you do, too. One of the things I cherish about our profession is our collegiality.

Over the years, I have witnessed optometrists joining forces to support a colleague in need. Whether it is as simple as sending a projector bulb to the doc down the street or as weighty as sharing office space after natural disasters, ODs help one another regardless of their views on professional politics. We may have conflicting opinions, but we are of one mindset.

I have had the opportunity to be on the giving and the receiving end of our optometric bond. "It is better to give than receive," they say, but three times in one month to receive was big for me.

Denise Whittam, OD, past NYSOA president and dedicated AOA member, came to the aid of my emergency patient when I was out of town. Bob Geula, OD, longtime NYC optometrist, delivered my personal contact lenses to me via messenger. Justin Bazan, OD, social media guru and *Optometry Times* columnist, gave me the *combination to the lock* of his Brooklyn office to examine a surgery patient in his exam room when I could not get to mine. How much better can it get?

So when you feel yourself becoming hot under the collar at the next local society debate, remember that the doctor in the seat next to you may be the one who sends you a slit-lamp bulb or sees your patients when you can't. Remain delighted in our profession and what we can accomplish in unity.**ODT**

Goals, not resolutions

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

So here we are, facing another bleak, dreary January. I really hate January. One of the reasons I hate January is New Year's resolutions. Why do we spend time at the dawn of each new year coming up with a list of things wrong with us?

Lose weight. Eat more healthfully. Quit smoking. Exercise more. Spend more time with our kids. Spend more time with our parents. Spend more time with our extended family. Watch less TV. Read more. Cook dinner more often.

Need I continue?

Rather than resolutions, I suggest we come up with goals. A *resolution* sounds so…resolute. Defined. Stand-alone. Weighty. Like a *declaration*. It should be written in capital letters: RESOLUTION. *Goal*, on the other hand, is by its very nature a work in progress. Progress, not perfection, is what you're looking for. A goal allows room for mistakes and recalibrating.

Maybe that's why so many gyms are crowded in early January and empty by mid-February. Once you miss a day or two at the gym, pick up fast food, or sneak a smoke, you're no longer *resolute*. You might as well write FAIL on your forehead in Sharpie.

Resolutions vs. goals reminds me of a very powerful little statement my friend Nell shared with me: Don't let perfect be the enemy of the good. Think about that for a second. It means that every day you get a new opportunity to <insert goal here>. Isn't that fabulous?**ODT**

Understanding the strengths and weaknesses of different solutions

Do patients really feel a difference?

Recently, a group of 283 subjects wearing senofilcon A (Acuvue Oasys, Johnson & Johnson Vision Care) as a daily wear (DW) lens and using one of four multipurpose solutions (MPS) or a hydrogen peroxide system were evaluated and compared to patients wearing senofilcon A as a daily disposable (DD) lens.[1]

Of the four MPS studied, two were PHMB solutions and two were Polyquad/Aldox solutions. Three subjective parameters were used to rate each subject's wearing experience: comfort at insertion, end-of-day comfort, and end-of-day dryness. Researchers also evaluated the incidence rate of two adverse events (AE), corneal epithelial infiltrates (CEI) and solution-induced corneal staining (SICS), as well as the effect of these AE on the subject's experience (comfort and dryness). Because all subjects wore the same brand of lens and the results were compared to its use as a DD lens (i.e. without solution), this review was able to isolate the comfort ratings and adverse events to the lens care product alone.

Comparing adverse events

It is no surprise that patients wearing senofilcon A as a DD lens experienced fewer CEI (0) and SICS (1) and had the highest comfort ratings. Among subjects using solution, the Polyquad/Aldox group scored the highest comfort rating in each category, followed by the H_2O_2 group, and then PHMB.

When comparing adverse events among DW patients, those using H_2O_2 had the lowest incidence of CEI or SICS. And those using Polyquad/Aldox solutions had a lower incidence of AE compared to those using PHMB solutions. There is a continued debate, however, as to the significance of these events, especially SICS. In this study, regardless of the solution used, patients experiencing either CEI or SICS rated their comfort lower in each of the three categories compared to those without AE. This demonstrates that both CEIs and SICS have a negative effect on clinical patient experience.

After isolating adverse events and comfort ratings to the lens care product, the researchers established that the H_2O_2 solution was associated with fewer AE but delivered inferior comfort scores compared to the Polyquad/Aldox solutions, and the inverse was true. The PHMB users reported the lowest comfort scores and incurred the highest incidence of AE.

While the first study showed a very clear-cut relationship between AE and comfort ratings, a second study with more variables showed no correlation. In this study, researchers compared AE rates and comfort scores among 28 combinations of lenses and solutions, using about 40 patients per combination.[2] Four solutions were studied: H_2O_2, PHMB, and Polyquad/Aldox with/without EDTA. Results were also compared with those wearing DD lenses. Researchers here included a wide range of AE, as opposed to isolating CEI or SICS. Again, DD patients had significantly fewer AE compared to any DW combination, though comfort was not universally superior. Among the lens and solution combinations, H_2O_2 had the lowest AE rate. However, both the comfort ratings and AE rates varied significantly according to the specific combination of lens/solution. There was no consistency in performance with any one solution.

Crystal M. Brimer, OD, FAAO
Dr. Brimer is in private practice in Wilmington, NC, and has special interests in contact lenses and dry eye. E-mail her at drbrimer@crystalvisionservices.com

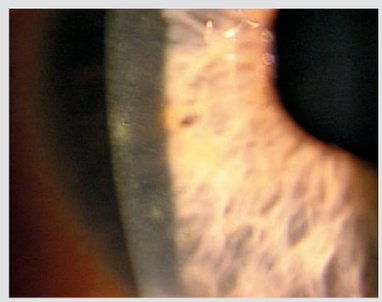

Figure 1: Corneal infiltrate

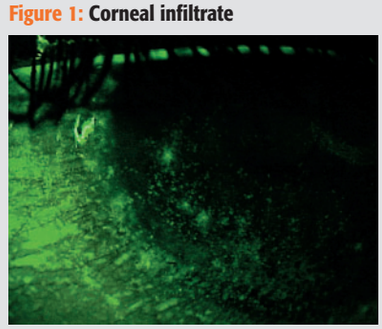

Figure 2: Staining

We gain tremendous knowledge through research. But sometimes when industry products are involved, there can be conflicting reports about the underlying cause of an adverse event or its true implication in patient care. Ultimately, it is our responsibility as practitioners to sift through the data, relate it to what we see in our own practice, and form our beliefs accordingly. But it is essential that we differentiate between preservatives and products and form *some* sort of belief. Only when we are convicted of the difference between products will patients be convicted that there *is* a difference. **ODT**

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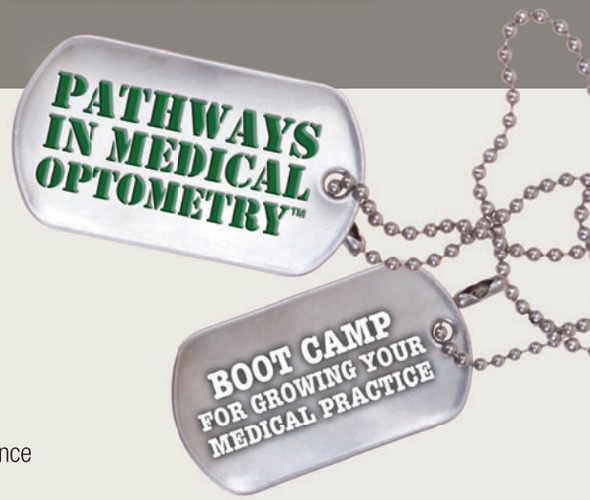

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ALLERGAN

Amniotic membrane in ocular surface disease

The membrane can be employed in-office as a biologic bandage.

Human amniotic membrane is a collagenous membrane derived from the submucosa of the placenta, the area in which a fetus grows and develops within the mother's uterus. Human amniotic membrane is composed of a single epithelium layer, a thick basement membrane, and an avascular stromal matrix.

The properties of amniotic membrane make it ideal for wound healing/tissue regeneration and in eye care, managing corneal and conjunctiva disease/reconstruction. A 2007 article gives historical perspective, property review, and preparation processes of amniotic membrane.[1]

In 1940, De Roth first reported use of fetal membranes on the ocular surface using amnion and chorion as a biological dressing for managing conjunctival defects.[2] Although found to be of benefit at that time, amniotic membrane therapy has become popular only in the past two decades. Poor clinical outcomes in the early 20th century may have resulted from poor processing that compromised the amnion's biologic properties.

Katherine M. Mastrota, MS, OD, FAAO
Dr. Mastrota is center director of Omni Eye Surgery in New York City and associate optometric editor of *Optometry Times*.

What makes it special?

Amniotic membrane contains collagen and specialized proteins such as fibronectin, laminins, proteoglycans, and glycosaminoglycans. It can act as a bandage contact lens, allowing corneal epithelialization beneath it. Dogru demonstrated that amniotic membrane improves corneal sensation and tear stability.[3] The basement membrane of amnion can support the expansion of progenitor cells, making it useful for treating partial limbal stem cell deficiency. Amniotic membrane inhibits inflammation and angiogenesis, and the presence of proteinase inhibitors may facilitate wound healing.[4] It has antimicrobial properties and prevents wound surface drying, thereby accelerating healing.

Amniotic membrane preparation

Human amniotic membrane is harvested under sterile conditions from the placenta of elective cesarean section after full-term pregnancy in medically cleared donors. Amnion can be prepared for implantation a number of ways. Heat- or air-dried amniotic membrane loses some of its biologic properties and is not ideal for ocular surface rehabilitation. The tissue can be lyophilized (freeze-dried), which induces minimal change in its properties for treatment of the ocular surface. For example, AmbioDisc (IOP Ophthalmics) is dehydrated via a proprietary (Purion) process that preserves the key elements associated with healing. Amnion can be preserved in cold glycerol and cryo-preserved and stored frozen at -80 degrees (AmnioGraft, AmnioGuard, ProKera [BioTissue]).

In the optometric office

Amniotic membrane can easily be applied in the office to manage corneal disease. The AmbioDisc dehydrated membrane is positioned on the corneal surface and then retained beneath a soft contact lens. The ProKera device (a self-retaining, cryopreserved amniotic membrane secured in a thin, 16-mm flexible ring) is inserted in a one-step process; the ring-encircled amnion is simply slipped in under the upper eyelid which positions and holds the membrane over the cornea.

Indications for amniotic membrane therapy include:

- Neurotrophic epithelial defects
- Shield ulcers
- Corneal abrasions
- Corneal ulcers
- Corneal burns
- Filamentary keratitis
- Dry eye and exposure keratopathy
- Recurrent corneal erosion
- Salzmann's nodular degeneration
- Chemical and thermal burns
- Post-infectious keratitis

Applied amniotic membrane will disintegrate or be absorbed at different rates, depending on the amount of surface information present—determining when to remove the amniotic membrane is patient and case dependent. Varying membrane thicknesses are available commercially in multiple amnion graft designs for more severe pathology or conditions that require therapy for longer periods of time.

Active amniotic membrane can be employed in-office as a biologic bandage that reduces inflammation and minimizes scarring in ocular surface/corneal pathology. Optometrists are qualified to utilize this advanced, well-reimbursed treatment modality.**ODT**

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ODs must be responsible for public misconception about optometry

Communication, education key to changing perception

The other day, in between seeing patients, I found the time to read an article online concerning glaucoma. The article was from a major news network and highlighted a possible increased risk of glaucoma with use of an oral contraceptive. Toward the end of the article, some patient advice was outlined that caught my attention: according to the authors, a person at risk should be followed closely by an ophthalmologist.

I didn't get up screaming. I didn't hurl my computer across the room. I didn't even let my inferiority complex show through the emotions I was feeling. Instead, I calmly and politely wrote a letter to the news organization explaining what optometrists are, and that glaucoma was what I, as an optometrist, spent most of my days dealing with. Then, I got to dwelling on all of the people and organizations I'd like to blame for statements like these. However, I then had an "a-ha" moments—and actually began blaming myself.

I started to think about what I do to help the general public understand what it means to be an optometrist. The majority of my speaking engagements and articles written are for other optometrists. However, I can't think of many times in which I've been proactive in promoting full-scope optometry to non-optometrists. My response to the article was a reaction that was likely too little, too late for this particular scenario.

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.

Missed opportunity

In reflecting on this article, I'm reminded of a conversation I had about a year ago with a glaucoma specialist. He'd never met me before, and we had shared a few patients. I was asking him about his typical modus operandi with referrals when he said something intriguing.

"When I'm all finished, I will send a final letter to you saying that the patient is being returned to you for continued optometric care," he said.

"What does 'optometric care' mean?" I asked.

"It means whatever you think it means," he said.

"Well, what does *that* mean?" I asked.

"There are optometrists in this city who don't even look at the optic nerve, and you know who they are," he said.

You know what I said? Nothing. Absolutely nothing. I was floored and speechless because I knew he was right. I knew who referred any and all pathology to ophthalmology, and I knew this guy had no reason to think I was any different. I also knew I had to start doing something to further a shift from this paradigm of thinking. Actually, I should have thanked this man for giving me the opportunity to explain that I was residency trained in ocular disease. Also, I should have kicked myself for not reaching out to him and others in my community sooner to try to dispel these myths and generalizations.

It is truly an exciting time to be an optometrist. Technological and scope advancements are allowing us to better care for our patients (who usually don't want to go anywhere else) and have fun doing it. We are primary eye care, and we have the tools and more than enough educational resources to manage glaucoma and other eye diseases effectively.

We are primary eye care, and we have the tools and more than enough educational resources to manage glaucoma and other eye diseases effectively.

I promise that in 2014 I will do a better job of communicating to the public all that optometry is and does for our patient base (which is about 70% of the U.S. population).[1] I will also try to think of ways to increase OD-to-OD referrals—I do a lot of glaucoma, but prisms and specialty contact lenses make me shiver. I will remember optometry's roots and be thankful for all who came before my generation. And, lastly, I will not surf the Internet at work anymore (well, maybe just not as much).**ODT**

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Dropouts—not in my practice

Prevent dropouts before they happen

We have talked about dropouts in contact lens practice since we started fitting lenses. Jason Nichols, OD, said 16% of contact lens wearers permanently drop out of lens wear each year.[1] Many others quote 15-30% of lens wearers drop out each year. In 2010, John Rumpakis, OD, conducted an extensive survey on dropout rates. He found that 17% of lens wearers were dropping out permanently from lens wear.[2] If we are seeing about 20% new contact lens fits a year, we are barely keeping even in our practices. If you want to feel ill, start adding up the lost revenue.

Crunching the numbers

If we take an average contact lens patient, assume the patient returns every 15 months, and has a 10-year lifetime in the practice, that equates 8 visits. Now assume the patient spends about $400 at each visit and purchases glasses 3 times in the 10 years at about $500 each time. This equals $4,700, what the average contact lens patient will spend in your office over 10 years. Assuming your practice sees 600 contact lens patients per year, then losing 20% a year can be a loss of 120 patients. The loss revenue grows exponentially and ends up in the millions over the 10-year period. We work so hard to get patients, it make sense to stop this bleeding.

David I. Geffen, OD, FAAO

Dr. David Geffen is a director of optometric and refractive services in San Diego, CA. He has lectured and written extensively on contact lenses, refractive surgery procedures and intraocular lenses. He is the treasurer for the Optometric Council of Refractive Technology (OCRT) and is serving as the chair for the OptoWest Advisory Panel for the California Optometric Association.

Identifying dropouts before they happen

The key is to identify those in our practices who are potential dropouts. There are many signs we must pay attention to:

- Patients who tells us their wearing time has dropped
- Patients who complain of end-of-day dryness
- Patients who say they still have a box of lenses they haven't used

These are all opportunities to prevent our patients from needlessly ending their contact lens wearing. Staff conversations are critical—staff often will elicit responses that our patient may be embarrassed to tell us. Make sure the staff notes these types of comments.

Ensure staff talks to patients about:

- New technology in lenses
- Materials which help with dry eyes
- Success with multifocal designs

We need to create the excitement the patient had when he first asked to wear contact lenses.

Ask questions, listen to the answers

Once the patient is in your exam chair, ask questions to get the truth about his lens wear. Ask when he removes his lenses; if he says he can't wait to get home and take them out, you have elicited much better information than, "I wear my lenses 12 hours a day." Now, we can fix a problem and create a happy patient. We tend to get lazy because we are so busy and know that there is another patient waiting for us in the next room. We don't spend the extra 2 minutes it takes to really find out how the patient is doing with his lenses.

We are in a new golden age of contact lens technology. We have seen new developments in lens materials and designs. New multifocal designs have the ability to keep the presbyope in contact lenses for many more years. Daily disposables have become very affordable and are a great assist for many of our challenging patients. And don't forget about the vast new technologies in gas permeable lenses. Semi-scleral and scleral lenses have kept many people in lens wear who may have gone to surgical options instead. We also have new solutions, which help keep the lenses cleaner and wetter than older products. It is important to prescribe the solution as well as the lens to show how important lens care is to overall wearing success.

Doctors, we can complain all we want about patients buying off the Internet or at big box chains, but dropouts are our problem. We need to address this problem head on. We need to actively recommend what is best for our patient and not be so concerned about costs and availability. When we do what is in our patients' best interest, it always ends up being best for our practice.**ODT**

Identify potential dropouts

Possible signs include:

- Patients who tells us their wearing time has dropped
- Patients who complain of end-of-day dryness
- Patients who say they still have a box of lenses they haven't used

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A different approach to treating demodex blepharitis

Tea tree oil is an answer to this chronic, but manageable condition

By Scott Schachter, OD

You see them year after year in your chair: persistent cylindrical dandruff (CD), red lid margins, and eyelash distention. You've prescribed lid scrubs with baby shampoo, warm compresses, and even steroid/antibiotic combo drops, but nothing seems to resolve the condition. If this is the case, it's likely you are dealing with demodex blepharitis. Research indicates that demodex is present in all, or at least most, cases of anterior blepharitis.[1] Studies have shown that cylindrical dandruff is pathognomic for demodex,[1,2] while conventional wisdom holds that blepharitis is staphylococcal or sebhorreic.[3] This represents a paradigm shift and requires a different approach to treatment.

Take-Home Message

Demodex is present in most cases of anterior blepharitis. In-office treatment with tea tree oil, regular follow-up visits, and at-home patient care help reduce the population of the demodex mite and improve anterior blepharitis.

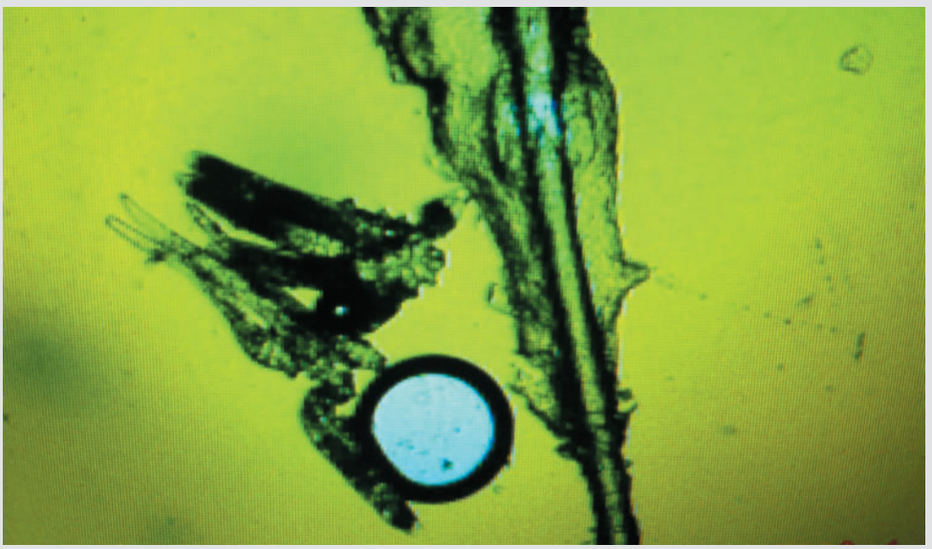

Figure 1. A group of demodex mites (at least six) separated from the eyelash root. Note the air bubble that can occur when wicking fluorescein under the cover slip.

Figure 2. Severe cylindrical dandruff.

Figure 3. The Demodex Kit from Ocusoft.

While the aforementioned conventional treatment options can clean up the mess and decrease some signs of blepharitis, none are toxic to demodex, and the condition will persist.[4] While new treatments under consideration include topical or oral ivermectin and Greenbug for People cedar oil, a new treatment paradigm is taking shape, and tea tree oil is at the heart of it.

Left untreated, or poorly managed, chronic blepharitis has many adverse effects—it causes allergy, inflammation, lash loss and misdirection, telangiectasia, and may play a role in meibomian gland dysfunction.[5]

Demodex blepharitis is nothing new. Interest has waxed and waned over the years, and a landmark paper on demodex was produced by an ophthalmologist in 1967.[6] He lamented the fact that he had overlooked demodex for over 30 years! Most eyecare practitioners have overlooked demodex as well.

Before starting treatment

Some things to consider before initiating treatment:

- Anterior segment photographs are useful to monitor progress and to educate patients.
- You can epilate lashes and show the mites to your patients, which should increase treatment compliance.
- Consider using an allergy survey, such as total ocular symptoms score (TOSS) to monitor subjective improvement.
- Because macadamia nut oil will be used in-office, ask about nut allergies.

It is important to set expectations and educate patients. I explain that demodex is a ubiquitous mite. All adults have some mites, but if we see blepharitis, they simply have too many. In fact, recent analysis of 100 consecutive patients in my practice showed more than 25 had demodex blepharitis confirmed with a microscope. The goal of the treatment is to decrease, not eradicate, the mite population. Tell patients that demodex is a chronic but manageable condition. Long-term eyelid hygiene will be required.

I classify patients as mild, moderate, or severe based on quantity of cylindrical dandruff (CD). I use a relative scale of 0-3:

- 1 is mild, with CD present on fewer than 5 lashes
- 2 is moderate, with CD present on 5-9 lashes

- 3 is severe, with CD present on 10 or more lashes.

You may develop your own scale. I treat patients based on signs, not symptoms.

Treatment

My current, but evolving, treatment algorithm is based on the advice of Mario Gutierrez, OD, of San Antonio, TX.[7]

Mild cases are prescribed at-home treatments that involve tea tree oil lid wipes twice a day and tea tree oil shampoo and facial wash. Cliradex by Bio-Tissue is currently my lid wipe of choice. Moderate to severe patients are treated weekly in-office with tea tree oil for 3 consecutive weeks at a minimum and use tea tree oil lid wipes twice per day at home. In addition, every 3-6 months I treat severe patients with Rysurg's new BlephEx device (see "New products help provide treatment").

> Left untreated, or poorly managed, chronic blepharitis has many adverse effects—it causes allergy, inflammation, lash loss and misdirection, telangiectasia, and may play a role in meibomian gland dysfunction. A new treatment paradigm is taking shape, and tea tree oil is at the heart of it.

Tea tree oil lid wipes can have an intense sensation that diminishes over time. I advise my patients to think of a cooling vs. a burning sensation. We demonstrate this in-office, so patients know what to expect. Patients are instructed to use the wipes on the eyelashes, forehead, eyebrows, and cheeks because the mites live in these places as well.

This is my in-office treatment protocol:

- Testravisc (tetracaine, Ocusoft) drops are applied prior to treatment.
- Sit the patient behind the slit lamp.
- With the patient looking away from the lid you are working on, use a cotton swab to apply a 50-50 mixture of tea tree oil and macadamia nut oil to the base of the eyelashes. Try to loosen the CD.
- Control the lid with one hand, and apply the tea tree oil mix with the other, being careful to avoid the cornea.
- The patient should sit with his eyes closed for 10 minutes.
- Reapply the mixture and have the patient sit with closed eyes for another 10 minutes.
- Rinse the patient's eyes thoroughly.

I reassess all patients after 1 month. Some patients, especially those with dense eyelashes or heavy CD, may require more treatments. Once the blepharitis is under control, patients are continued on tea tree oil lid wipes at home on daily basis and followed in 2-3 months.

All patients are given information sheets about blepharitis as well as homework, such as discarding makeup, using hot water, and drying linens on the high dryer setting. Family members should also be evaluated, and treated if needed, for demodex.

Due to recent dermatological research showing a link between demodex and rosacea,[8] the mite has once again come into the spotlight. I have found that diagnosing and treating these patients has them looking and feeling better. Many treated patients have commented that their eyes haven't felt this good in a long time. **ODT**

New products help provide treatment

BlephEx is a new device, similar to an Alger brush in appearance, made by Rysurg. The handpiece is used to spin a medical-grade micro-sponge along the edge of the eyelids and lashes to mechanically remove collarettes. The procedure takes about 10 minutes. I am in the process of learning the most effective technique to remove CD.

I have used this device for only a short time, and there is a learning curve. I've discovered some useful tips:

- Prior to treatment, use warm compresses to loosen CD.
- Saturate the sponge. Wet the lids, too. Both sponge and lids tend to dry quickly. For wetting, I used Ocusoft Tears Again Advanced Eyelid Spray, poured in a small cup.
- When putting the disposable sponge on the BlephEx, don't push too hard. It can be difficult to remove.
- For numbing, tetracaine works better than proparacaine to minimize the "tickling" sensation, which can be intense.
- A loupe is helpful for better viewing.

The **Demodex Convenience Kit** by Ocusoft contains many items, but I find the tea tree oil and spray to be the most helpful.

- Small container of tea tree oil; I save this for future treatments
- Lid Scrub pads
- Applicator brush
- Ointment
- Tears Again Advanced Eyelid Spray

Some practices may suggest that patients purchase this kit. I prefer to apply the tea tree oil myself in-office to avoid surface trauma, and I'd rather patients didn't have tea tree oil at home.

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Author Info

Dr. Schachter is in private practice in Pismo Beach, CA. He has been treating demodex for about 3 years, and it is now a big part of his practice. Dr. Schachter is also one of the only glaucoma-certified optometrists in California.

IOP as a cornerstone to glaucoma management

IOP measurement and management is key to slowing glaucoma progression

By Christopher W. Lievens, OD, MS, FAAO

The measurement and management of intraocular pressure (IOP) in patients with glaucoma is critical. Even with the onslaught of new technologies to monitor progression and make earlier diagnoses, IOP remains a crucial data point in the optometric examination. The focus of all current means to quell the progression of glaucoma is control over IOP. As such, a careful review of glaucoma facts and key research endeavors is prudent.

Take-Home Message

Control over IOP is the current focus of means to slow the progression of glaucoma. Careful review of facts and key research studies is prudent. Approximately 5-10 million people in the U.S. have elevated IOP. These rates are projected to triple by 2050, with the south and southwest being prime areas.

In the United States, glaucoma is still a very prevalent disease state. Glaucoma is one of the leading causes of blindness in the U.S.—more than 4 million Americans have a glaucoma diagnosis, and an additional 2 million may have it but are not yet aware. What's more, approximately 5-10 million people in the U.S. have elevated IOP. These rates are projected to triple by 2050, with the south and southwest being prime areas.[1]

A number of diagnostic tests are used for the detection and progression analyses of glaucoma, including (with corresponding CPT codes):

- Gonioscopy, 92020
- Perimetry, 92083
- Tonometry, (bundled with exam code)
- Serial/diurnal measurement, 92100
- Optic nerve head (ONH) tomography/topography, 92133
- Pachymetry, 76514
- ONH photography, 92250

Of the tests noted, gonioscopy and serial tonometry are occasionally omitted in the care of glaucoma patients. Gonioscopy is a necessary procedure to be performed upon any glaucoma diagnosis because open-angle and narrow-angle glaucomas may require different treatment strategies. Gonioscopy should also be done on a scheduled basis as the patient ages because the angle can narrow over time. Serial tonometry (usually defined as four measurements of IOP over at least a 4-hour period) may also be underperformed and yet still offers useful results. A variable diurnal curve of IOP poses increased risk for the glaucoma patient and should be monitored.

Advanced Glaucoma Intervention Study

Arguably one of the most influential glaucoma research trials to date has been the Advanced Glaucoma Intervention Study (AGIS).[2] AGIS enrolled patients with known unstable glaucoma (such as worsening visual field loss and/or advancing atrophy of the nerve fiber layer with optic nerve head atrophy). This trial was large in that it enrolled 591 patients and monitored the progression of 789 eyes. AGIS randomized the treatment of eyes to either argon laser trabeculoplasty (ALT) or surgical trabeculectomy.

There was no difference that was statistically significant in the outcome between treatment groups. However, an analysis of the data did reveal some very important points regarding IOP management in unstable glaucoma patients. Eyes in which 100% of visits over a 6-year period had an IOP <18 mm Hg also had a visual field defect score (from baseline) close to 0. This was in stark contrast to those eyes in which only 50% of visits had an IOP <18 mmHg and visual fields continued to worsen. Furthermore, the lower the IOP, the more reduced the progression. Those with 15 mm Hg IOP showed half the progression of those with 18 mm Hg, and those with 13 mm Hg showed half the progression of 15 mm Hg. The results indicated that lower IOP resulted in patients who were far better managed.[2] So, with unstable glaucoma patients, low IOP is an excellent goal.

Collaborative Initial Glaucoma Treatment Study

The Collaborative Initial Glaucoma Treatment Study (CIGTS) answered a question that had been burning at the time.[3] Optometrists frequently manage glaucoma patients who struggle with medical therapy compliance. The pertinent question is whether surgery for newly diagnosed patients would positively affect quality of life without the need for regular medication instillation. CIGTS answered this question by examining 607 newly diagnosed glaucoma patients and randomized them to either topical therapy or surgical trabeculectomy. After 5 years, the end result was that new glaucoma patients' quality of life was unchanged. As a result, glaucoma managers prescribe treatment modalities that are best for the individual and do not leap toward surgery until it is indicated.

Collaborative Normal Tension Glaucoma Study

The Collaborative Normal Tension Glaucoma Study (CNGTS) examined a very challenging group of glaucoma patients.[4] It enrolled and monitored 145 eyes with normal tension glaucoma (eyes over 10 measurements of IOP that

From the Chair

On October 22, 2013, the Primary Care Section of the American Academy of Optometry held its first Diplomate Preparatory Course. We presented 8 hours of excellent, COPE-approved CE. Our two main goals were to provide outstanding CE that would help prepare potential candidates to become Diplomates of the Section, and to describe the process of becoming a Diplomate and encourage those in attendance to apply to become a candidate. Both goals were met and even exceeded. I thank *Optometry Times* for publishing this piece, which is the first in a series of articles that will summarize the topics we covered. If you're interested in becoming a Diplomate of the Primary Care Section, you will find the requirements on the American Academy of Optometry's Web site, *http://www.aaopt.org*. We hope that more will join us next year for a great day of continuing education and fellowship.

—Hal Bohlman, OD, FAAO, Diplomate (PC)
Chair, Primary Care Section

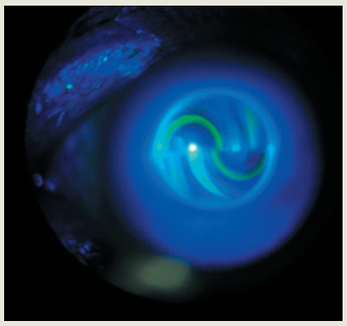

Figure 1. Intraocular pressure is still a vital assessment in the diagnosis and management of patients with glaucoma.

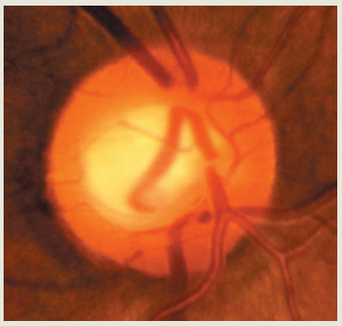

Figure 2. Typical ONH cupping changes in glaucoma patients

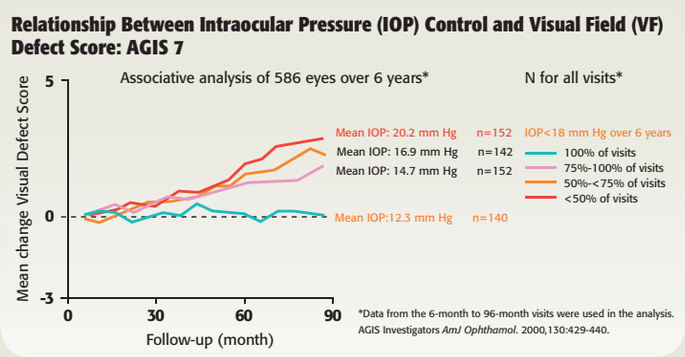

Figure 3. AGIS 7 noted that IOP measurements of the enrolled subjects (586 eyes) over the 6-year period had stable visual fields when IOP was the lowest (12.3 mm Hg)

was never measured over 24 mm Hg). The treatment group's target was a 30% reduction of IOP using any drops, ALT, or trabeculectomy. There was an observation group that progressed, of course, at an 80% rate without therapy. What was staggering was that the treatment group (though better than the observation group) progressed at a rate of 40%. Normal tension glaucoma continues today to be very difficult to manage without progression.

Early Manifest Glaucoma Trial

The Early Manifest Glaucoma Trial (EGMT) was another trial that demonstrated the importance of IOP management.[4] The patients enrolled had mild to moderate visual field defects and pre-treatment IOP of less than 30 mm Hg. The question was whether to initiate treatment right away, to delay initiation, or to simply manage. This study enrolled subjects with primary glaucoma and some secondary glaucomas, as well. Some 255 newly diagnosed patients were randomized to ALT, beta-blocker treatment, or observation (observe only or delayed treatment). Unsurprisingly, the observation group progressed 12 months earlier than the treatment group(s). The key IOP finding was that every 1 mm of decrease of managed IOP resulted in a 10% decreased risk of progression. In this multifaceted group of new glaucoma patients, lower IOP was better, as was the case in the advancing glaucoma patients via AGIS.

Ocular Hypertension Treatment Study

The Ocular Hypertension Treatment Study (OHTS) was one of the largest trials ever conducted in the realm of glaucoma.[5] OHTS was a prospective study of patients aged 40-80 years (1636 patients) with ocular hypertension solely (no glaucomatous damage), in which 50% were treated and 50% were observed. Though lowering IOP in the treatment group reduced risk by 50% over the 5-year investigation period, it indicated that optometrists would have to treat 100 patients with ocular hypertension (OHTN) per year to prevent one from progressing to primary open-angle glaucoma (POAG). This result was somewhat surprising because many predicted that preventative treatment would be far better. Very important risk factors for the progression of OHTN to POAG were also identified, including:

- **Age:** 22% increased risk per decade
- **Race:** African-American highest risk
- **Higher initial IOP:** 10% increased risk per 1 mm Hg
- **Thinner corneas:** higher risk
- **Larger C/D ratio:** 32% increased risk with 0.1 increase in cup-to-disc ratio
- **Heart disease:** higher risk

An additional risk factor was identified that continues today to be a very important in-office test: central corneal thickness (CCT).[5]

OHTS revealed the following data:

- **36%** of patients with IOP >25.75 mm Hg and CCT <555 µm progressed from OHTN to POAG
- **6%** of patients with IOP >25.75 mm Hg and CCT >588 µm progressed from OHTN to POAG
- **15%** of patients with C/D ratios of .3 round and CCT <555 µm progressed from OHTN to POAG
- **4%** of patients with C/D ratios of .3 round and CCT >588 µm progressed from OHTN to POAG

As it turned out, CCT is a powerful predictor of progressing from OHTN to glaucoma. The relative risk of progression of OHTN to POAG increased 81% for every 40 µm thinner central cornea tested in the OHTS.[5]

This cursory review of some landmark glaucoma research trials underscores the importance of IOP control. Generally, lower IOP is preferred to the alternative. Over the coming years, optometrists will see impressive technologies enter their practices. It is likely that new medical therapies and superior surgical advances will come to bear. IOP measurement and management will doubtfully go away. Instead, IOP is likely to continue to be the cornerstone of glaucoma management—a critical cog in the care of our glaucoma patients.**ODT**

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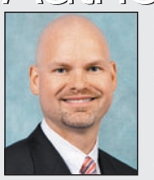

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Preoperative considerations in patients with cataracts and pseudoexfoliation syndrome

PXF is a risk factor for cataract surgery—how to handle it

By Marta C. Fabrykowski, OD, FAAO

Preoperative evaluation of patients with pseudoexfoliation (PXF) syndrome is essential in preparing for and potentially preventing complications during phacoemulsification. Patients with PXF have been documented to have an accelerated rate of cataracts, both nuclear and subcapsular.[1,2] These patients may face a greater chance of complications such as increased inflammation, intraocular pressure spikes, and lens related complications, both during and following cataract surgery. In fact, PXF has been listed as the most common cause of complications associated with cataract surgery.[2]

Take-Home Message

Patients with PXF have been documented to have an accelerated rate of cataracts, both nuclear and subcapsular. These patients may face a greater chance of complications such as increased inflammation, intraocular pressure spikes, and lens related complications, both during and following cataract surgery. In fact, it has been listed as the most common cause of complications associated with cataract surgery.

Foreseeing potential difficulties is important not only to prepare the surgeon, but to have the preoperative discussion with the patient—the initial decision for cataract excision will entail a more detailed analysis of risks, benefits, and alternatives. This review provides a systematic approach to comprehensively assess eyes with PXF, covering all aspects of the ocular examination, and appropriate surgical considerations.

PXF presentation

In general, corneal findings in PXF are rare, but careful evaluation of the corneal endothelium may reveal flakes of bright white fibrillar exfoliative material attached to the corneal endothelium.[3,4] These deposits often appear as irregularly spaced aggregates reminiscent of small filaments. The flakes can vary in shape and size, and may differ over time.

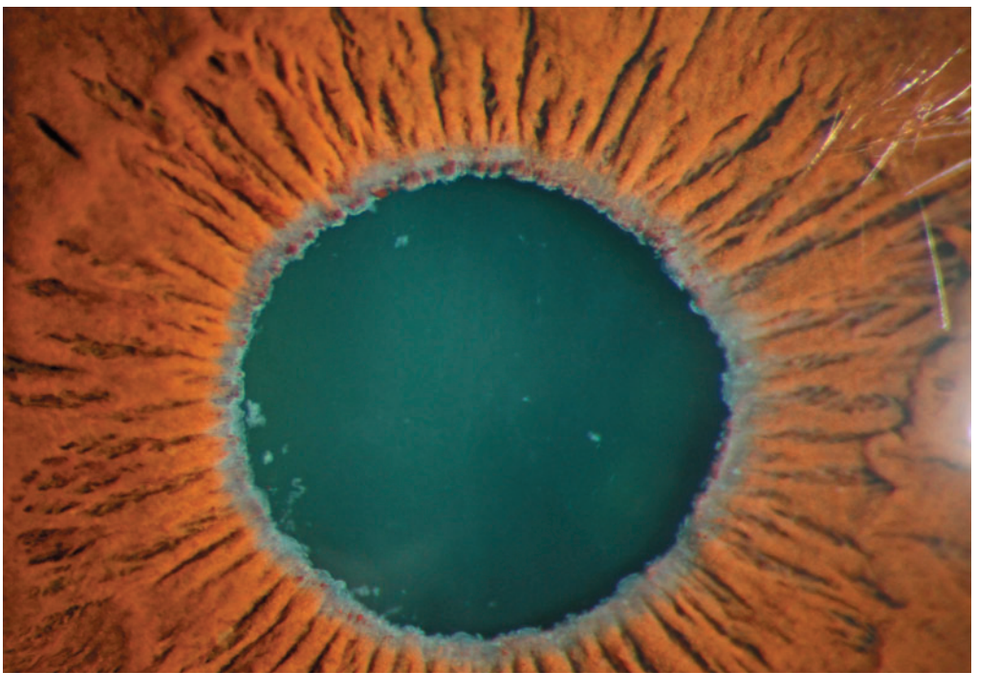

Figure 1: Fine white fibrillar material deposited on both the pupillary margin and the lens.

Another posterior corneal finding is a reduction in the number of endothelial cells, sometimes with an accompanying increase in central corneal thickness.[3] Specular microscopy has demonstrated a measureable decrease in the number of endothelial cells as well as cell polymorphism.[4] Clinically, these cell changes may appear as a light paracentral area of pigmentation on the corneal endothelium, occasionally organized in the pattern of a Krukenberg spindle.[3] A decrease in integrity of the corneal endothelial cells may lead to increased corneal inflammation postoperatively, with signs such as endothelial folds, microcystic edema, and pseudophakic bullous keratopathy.[1] Fortunately, these keratopathies are often treated without additional surgical intervention and respond to topical corticosteroids.[1,5]

Evaluation of the anterior chamber should include careful assessment of chamber depth for 360 degrees, also comparing between both eyes. Though there are many direct signs of lens dislocation (discussed below), one indirect sign is an alteration in chamber depth. A lens can subluxate forward, leading to a shallow anterior chamber, or may fall backward towards the vitreous, resulting in a hyper-deep chamber.[1] Asymmetry may be more evident on gonioscopy, hence its increased importance in pseudoexfoliative preoperative assessment.[1]

Pseudoexfoliation is classically associated with pigment loss both at the pupillary margin, or ruff, and around the iris sphincter. On iris transillumination, the margin may have a moth-eaten appearance.[4] Gray-white flakes may be present at the pupillary margin[1,4] (Figure 1).

It has been proposed that deposition of this material, possible hypoxia, and iris atrophy may contribute to iris functional changes. As the iris sphincter may be compromised, there may be a reduced response of the eye to mydriatics, both in-office and intraoperatively.[1,4] This may hamper the preoperative

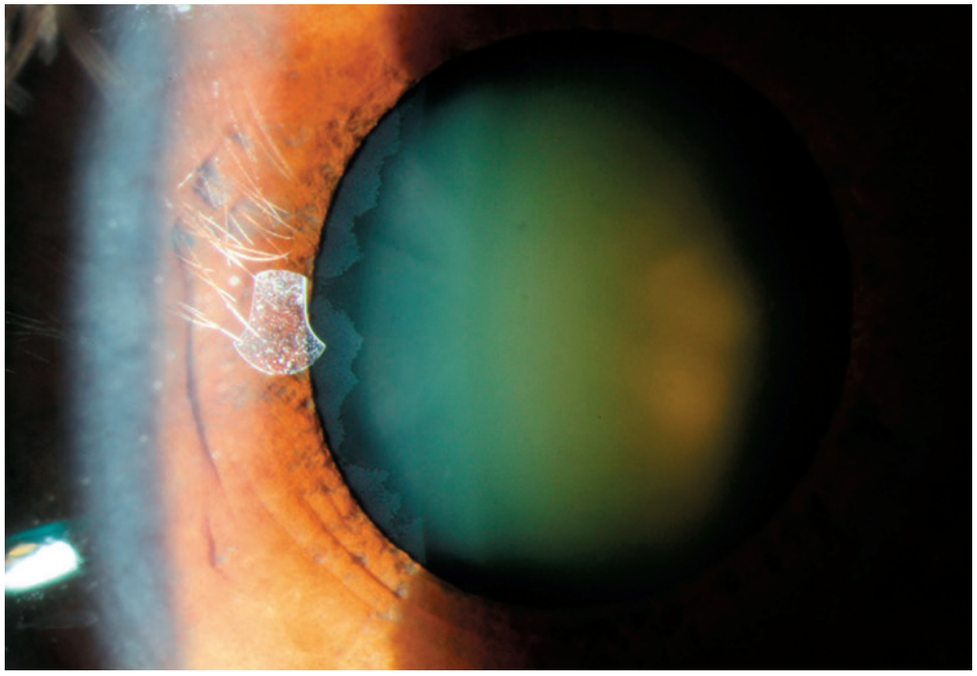

Figure 2: Peripupillary fibrillar deposits on the anterior capsule of the lens. Note the poor response to mydriatics.

dilated fundus examination, and intraoperatively may require adjunctive pupil-enlarging surgical devices.[1] Posterior synechiae have also been documented in the setting of PXF, which can also contribute to reduced pharmacologic dilation.[1] Iris flutter, or iridodonesis, is another indirect sign of weak zonules, which hold the lens in place.[1] Sometimes the iris may be more rigid in PXF, so iridodonesis may not be evident.[4]

Patients with PXF are twice as likely to convert from ocular hypertension to glaucoma.

Iris changes in PXF closely intertwine with lenticular findings. Exfoliative material most often is present on the anterior capsule of the lens (Figure 2).

The anterior capsule of PXF may appear to have a target, or bull's eye pattern, which can consist of three zones after dilation: the central clear disk, approximately the diameter of the pupil; the clear zone corresponding to cleaning via pupil size fluctuations; and a peripheral band of fibrillar material.[3,4] A direct sign of zonular damage is phacodonesis, or flutter of the lens.[1,4] Although crude, jolting the slit lamp table during examination of the lens can produce a subtle vibration or movement of the lens which may indicate zonular weakness. A grading scale from +1 to +4 exists, which may aid in considering alternative surgical methods in extracting a looser lens.[6] A loose or subluxated lens is best viewed after dilation, though in poorly dilating eyes, examining for a decentered fetal nucleus may be helpful.[1]

Glaucoma and cataract

Patients diagnosed with PXF must be carefully preoperatively evaluated for pseudoexfoliative glaucoma (PXG); it has been found that they are twice as likely to convert from ocular hypertension to glaucoma.[2] It is suspected that deposits of fibrillar material and pigment in the trabecullar meshwork and Schlemm's canal may be the main reason for elevated intraocular pressure (IOP) in PXF.[4] Additional tests if suspecting glaucoma include but are not limited to: optic nerve imaging, visual field testing, and if not previously done, pachymetry and gonioscopy. Treating these patients prior to phacoemulsification may require topical medications and/or lasers.[5] Patients with concurrent cataracts and glaucoma, pseudoexfoliative or otherwise, must have the glaucoma stabilized prior to considering phacoemulsification because post-operative pressure spikes are much more common in such instances.[1] Occasionally, the best strategy may be a combined cataract-glaucoma procedure when IOP control is difficult preoperatively or there is advanced optic nerve damage.[5]

PXF is a significant risk factor for patients undergoing cataract surgery. Weakness of the zonular apparatus, reduced pupillary dilation, and corneal changes may necessitate altered surgical techniques and adjunctive devices. Recognition and preparation is instrumental; the surgeon may need alternative intraocular lenses, adjunctive devices to expand the pupil or stabilize the capsular bag, and other ophthalmic specialties on standby to the operating room. Candid conversation with PXF patients on the risks, benefits and alternatives is important—optometrists are often the first point of conversation for discussing cataract surgery. Recognition of pseudoexfoliation may better prepare the practitioner for postoperative care; additional medications and more frequent follow-up may be required.**ODT**

Special thanks for insights and photographs: Richard Braunstein, MD; Amilia Schrier, MD; Sarah Harmon, Martha Moszczynski.

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In Brief

John Varvatos and REM Eyewear release Fall 2013 Collection

The Fall 2013 addition to the John Varvatos eyewear collection delivers on the elements that have established the brand.

- **V148:** The V148 has a double bar bridge, rounded rectangle front, and hidden elements, including handcrafted tort temple tips and handwrapped leather temples.
- **V358:** The V358, left, offers a rounded front, clean keyhole bridge and the trademark Varvatos guitar stock hinge.
- **V356:** The V356, above, has a small round front and handmade acetate.
- **V787:** With a double brow bar created in contrasting materials, classic aviator sun V787 mingles handmade matte acetate temples and metal brow bar.
- **V788:** The V788 has a delicate metal frame and leather inlay temple tips and top bar.
- **V790:** The V790 has an acetate frame, deep tones, a pressed pattern temple, and precise lines.
- **V791:** The V791 is a robust acetate frame with the trademark Varvatos guitar stock hinge along with mirrored lenses.

Converse Eyewear unleashes Fall 2013 collection

MODEL
Q011

MODEL
Q010

MODEL
Q015

MODEL
Q014

Converse Eyewear's Fall 2013 release consists of bright colors, mixed materials, and unforgettable shapes.

- The Q010, seen above, has an oval, metal front with acetate temples. The bright colors are sporty and edgy, while the shape is purely classic. With a Converse logo and laser patterned design along the temple, it is available in black with pink, brown with yellow, purple with blue, and red with black.
- The Q011 has a laser engraved design on the corner of each square front and TR-90 temples that are very flexible. This style, seen above, is available in black

The Blackfin Collection

The Blackfin collection embodies all the tradition of this brand and goes several steps further, with more slender lines, lighter materials, original designs, and richer colors.

The new Blackfin Zero Edge has a hi-tech rim that balances on an ultra-thin layer of beta-titanium. Weighing in at only 4.1 grams, this frame displays the best of Blackfin technology with Atom Zero flexi-joints, and patented Swordfish Mini temple-tips.

One feature is the range of colors, as in the model for men's BF698 Coney, seen above, whose taut, sculpted lines lend emphasis to the blue and red tones or the more classic dark brown, titanium grey, and gunmetal shades. Blackfin's BF699 Tory has lines that are ultra-slender and light, offered in bright green, purple and midnight blue.

BF696 Daytona stands out for its decisive top rim contrasting with the deeper, more rounded lens shape. This spectacle frame in pure titanium offers a choice of bold contrasting colors on the front and temples in dark brown and anthracite.

with blue temple, brown with yellow temple, deep purple with purple temple, and burgundy with pink temple.

- The Q012 has a classic metal front and bright metal temples that are available in matte black with brown temple, matte brown with orange temples, matte dark gunmetal with yellow temples, and matte navy with grey temples.
- A textured temple featuring the Converse All Star logo, the Q013 is available in black, brown, gunmetal, and navy.
- The Q014 frame, seen left, features a rounded front crafted with handmade acetate and peek-a-boo TR-90 temples, and a Converse logo. It is available in black stripe with navy temples, brown stripe with orange temples, tortoise with teal temples, and crystal with red temples.
- The Q015, seen left, has a rectangle front and squared-edge temples with gradient color fades. A handcrafted acetate front creates depth and dimension. It is available in black with gun to silver gradient, brown stripe with brown to orange gradient, olive stripe with olive gradient, and navy with grey to blue gradient.
- The color choices for the B001 sunglasses range from demure black to bohemian tort to pink gradient.
- B002 has a rectangle shape with lightweight stainless steel front, and a Converse All Star logo. It is available in black, matte blue with blue mirror lenses, and gunmetal with red mirror lens.
- R001 is a classic rectangle sunglass with polarized lenses and rubberized nose pads and temple tips. It is available in black with blue mirror lens, brown gradient, and grey stripe.
- A thicker-profile aviator, R002 offers polarized lenses and rubberized nose pads and temple tips. It is available in black gradient, forest, and slate.

Coburn unveils digital polishing solution

Coburn Technologies recently introduced its latest polishing compound Digi-Sheen Pro.

Features include:

- Formulation for use in digital and conventional polishers
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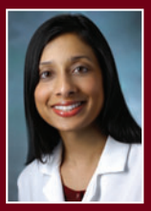

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  - Mahsa Salehi, O.D.
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  - Anu Laul, O.D. & Marta Fabrykowski, O.D.
- *Latest in medical management of retinal disorders.*
  - Adam Wenick, M.D., Ph.D.
- *Panel Discussion*
- *Could robots ever do retina surgery?*
  - Peter Gehlbach, M.D., Ph.D. & Mahsa Salehi, O.D.

Session 2

- *Retina case presentation, panel discussion & reviewing significant recent retina clinical trials.*
  - Mahsa Salehi, O.D. & Peter Gehlbach, M.D., Ph.D.
- *ABCs of the Implantable Miniature Telescope (IMT).*
  - Tiffany Chan, O.D.
- *Differentiating retinal from optic nerve syndromes.*
  - Eric Singman, M.D., Ph.D. & Elliott Myrowitz, O.D., M.P.H.
- *Diagnosing glaucoma in a busy optometric practice.* (Baltimore VA residents)

Session 3

- *Managing common corneal dystrophies and degenerations.*
  - Karen Dunlap, O.D. & Albert S. Jun, M.D., Ph.D.
- *Common eyelid lesions.*
  - Roxana Rivera, M.D.
- *Anterior segment trauma.*
  - Michael Leung, O.D. & Gayle LePosa, O.D.
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- *Corneal epithelial defect: is it infectious?*
  - Elliott Myrowitz, O.D., M.P.H.
- *Panel Discussion & Case Presentation*

Session 4

- *Myopia a public health issue? Medical treatments.*
  - Robert Wojciechowski, O.D., Ph.D.
- *Surgical correction of astigmatism.*
  - Divya Srikumaran, M.D.
- *New soft and rigid materials and designs, therapeutic performance.*
  - Anisa Gire, O.D. & Amanda Marks, O.D., M.S.
- *Color vision impairment diagnosis and treatment.*
  - *Jeremy Goldman, O.D.*
- *Panel Discussion*

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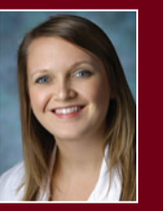

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Brien Holden

Myopia and Earl Smith's Nobel Prize

Why did you go into optometry?

I was a poor student and failed my high school first time around. My mum said, "I know an optometrist. Let's go talk to him." He ran a big optometric practice in Melbourne, and I thought, "This is a pretty nice, clean, easy way of making a living, and it involves people. I like people. Well, I'll have a go at optometry."

When you sailed to England in 1964, the poverty in some of the ports motivated your interests in humanitarianism. Was there a specific moment that lingers?

We landed in Columbo, which in those days was in a country called Ceylon, now Sri Lanka. I was just shocked. There were almost-dead people lying in the streets, there were lepers and beggars, and I thought, "Shit, this is not right. People shouldn't be living in this sort of poverty." That mobilized a background of teaching from my mother and my school that you should care about other people as much as you care about yourself.

How did contact lens research become your focus?

The variety of challenges: how does this shape fit the eye and why does it stay on the cornea, why do we get infections, how do we get the lens to rotate to correct astigmatism? There's a bunch of challenges related to the physical, mechanical side of contact lenses, and then secondly, to the biological and physiological side, and it was the whole range of very interesting challenges.

Did research draw you away from seeing patients?

I've never ever really lost interest in patients. I remember a lady when I was in my first year in practice who was a +6.00 D. She was about 40, had 4 kids, and she couldn't see a bloody thing. I did her refraction and supplied her with a pair of glasses—and it changed her life. She could see leaves on trees, she could see her kids 10 feet away. That was a tremendous joy.

How many patents do you have or are involved in?

Uh, [laughs,] I don't know. Our organization probably has about 40 patent families, and in those families there might be 1 to 5 patents. Maybe there's a couple hundred patents.

When tragic events grab headlines, how do you bring attention back to eliminating preventable blindness?

When the dust has settled and you've done what you can for people who've had a problem, you have to make sure the governments of the world, and particularly the World Health Organization, understand the that cost of people not having a pair of glasses is around about $202 billion in lost productivity. The lack of a pair of spectacles and an eye examination prevents children from learning at school and adults from working, and it drives people into disability and poverty. It's got to compete with AIDS, heart disease, and cancer in terms of getting the attention of governments and industry. But if you point out that rehabilitating these 640 million people will cost about $25 million, those people can be productive members of society, and society would be much better able to tackle all those life-threatening conditions if people can see.

What's the Intelligent Retinal Camera Project?

A guy named David Green said, "You should see what we're doing in Prescott, AZ." Tom Cornsweet had the idea that he could make a high-res, low-cost, tri-stimulus camera which could capture a retinal image and use algorithms to analyze features of significance in the retina, like hemorrhages and vessel changes, with an automatic diagnostic feature. We invested in the company—the aspiration being an affordable, high-tech camera that would perform diagnostic analyses and eventually diagnoses. If you're in a tent in Malawi, you take a picture, and if the camera says this person has diabetes, take them 100 miles to the nearest center for treatment.

You're known for having a very informal speaking style when you're at the podium. Why is that?

[Laughs] I think life should be fun. And you know, I've got a bit of a bizarre sense of humor. I like to have a joke; I like to have fun. I think it's more interesting for the audience if you can get involved with them. I love working with audiences, students, and people who've got a sense of humor. So, it's good to take the mickey, have a bit of fun, and see if you can get a response.

What is one thing no one knows about you?

I would like to see Earl Smith get the Nobel Prize. Earl has discovered a way to control the progress of myopia. I would love it if we did enough work to establish that we can prevent hundreds of millions of people from going blind from high myopia, someone traced that back to Earl Smith, and said, "You're not just a prince of a man, but you deserve the Nobel Prize. So, here it is."

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

In terms of greatest regrets, I really don't have any. I wouldn't go back one day in my life in case it wasn't as good as it has been.**ODT**

Read the full Q&A: optometrytimes.modernmedicine.com

Photo courtesy Brien Holden, PhD

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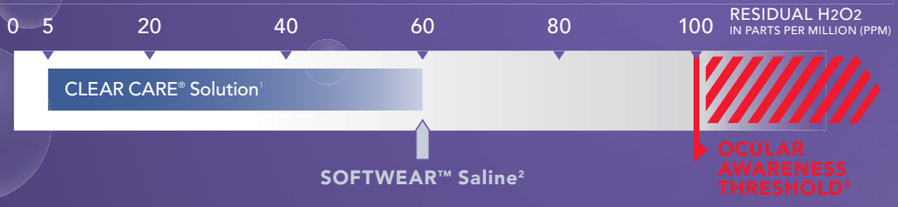

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