

# PRIMARY CARE OPTOMETRY NEWS®

A SLACK Incorporated® publication

The Leading Clinical Newspaper for Optometrists

Michael D. DePaolis, OD, Editor

## INSIDE



### WHAT'S YOUR DIAGNOSIS?

This patient reported recurring redness and irritation in one eye. Small, round, grey-white keratic precipitates covered the corneal endothelium.

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### MRSA INCIDENCE UP

While community acquired methicillin-resistant *Staphylococcus aureus* is on the rise, experts point out that other pathogens are still much more common.

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### HSV, HZV PROTOCOLS

Long-term suppression therapy is getting safer with newer agents that cause less toxicity.

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### PHOTO CONTEST



This new feature challenges readers to showcase their ocular photography skills.

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## ODs add the newest anti-infective agents to their treatment regimens

Newer choices include therapeutics effective against bacterial conjunctivitis and corneal ulcers.

Topical fluoroquinolones have generally been the first line of defense against ocular infection, but optometrists are now enjoying even more expanded treatment options.

A new agent effective against bacterial conjunctivitis is the recently approved Besivance (besifloxacin ophthalmic suspension 0.6%, Bausch & Lomb). **Paul M. Karpecki, OD, FAAO**, points to

the vehicle DuraSite (InSite Vision) as facilitating prolonged exposure to the therapeutic agent.

Iquix (levofloxacin ophthalmic solution 1.5%, Vistakon) is approved for the treatment of gram-positive and gram-negative bacterial corneal ulcers. **Jon Scott Walker, OD, MS, FAAO**, said that he and his colleagues usually turn to Iquix for most of their contact lens

### SPOTLIGHT ON

## Ocular Infection

patients' infections because they are usually attributed to *Pseudomonas*.

Another newer anti-infective, AzaSite (topical azithromycin solution 1%, Inspire Pharmaceuticals), also formulated with DuraSite, is approved for bacterial conjunctivitis; however off-label use for blepharitis is showing positive results, Dr. Karpecki said.

For the complete story, see page 16.

## Family history should drive decision to screen for POAG

BOSTON – Here at the World Congress of Optometry, one researcher commented that screening only high-risk patients may yield better results than screening the general population.

“If having a first-degree relative with glaucoma is a risk factor for developing the disease, a detection campaign focused on the relatives of glaucoma patients would have

more probabilities of detection,” reported **S. Fabian Lerner, MD**.

In another study of more than 2,000 patients in Singapore older than 50 years with no signs of glaucoma, **Norlina Ramli, MD**, said more than 20% of those evaluated had angle closure. Mean iris curvature and iris thickness were greater in the patients with angle closure.

For more meeting highlights, see page 20.



## Filtering method helps protect the eye from UV, selective visible light

One company's proprietary technology that helps block a portion of the blue light spectrum could help protect against macular disorders.

High Performance Optics' colorless selective light filtration methods could be used in spectacles, contact lenses, IOLs or other products to filter out the portions of short wavelength, high energy visible light considered to be most harmful to the retina.

Because of the selective blocking, low-light vision would not be distorted, nor would the filter cause a yellowing effect.

For the full story, see page 19.

## AOA president sets goals for new term

WASHINGTON – When he addressed the American Optometric Association's House of Delegates as its new president,

**Randolph E. Brooks, OD**, urged the profession to move forward with board certification for optometry. “The profession has spoken,” he said here at Optometry's Meeting. “Now is the time to come out of your comfort zone.”

Dr. Brooks pointed to the vital role of the AOA's Third Party Center to ensure that comprehensive eye care is a mainstream covered benefit for all patients.

Portability of licensure and membership growth also top the new president's goals for his term.

For the full story, see page 4.



Randolph E. Brooks

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# Selective blue light filtering may protect against macular disorders

One company's proprietary technology filters UV and the most harmful visible light rays.

by Bryan Bechtel

PCON CORRESPONDENT

A technology designed to block a portion of the blue light spectrum may offer a preventive measure against the development of age-related macular degeneration.

High Performance Optics has designed several colorless selective light filtration methods that could be used in spectacles, contact lenses, implantable lenses or other products to filter out the portions of short wavelength, high energy visible light considered to be most harmful to the human retina, according to a company officer.

Unlike other filtering technologies, which block at least some portion of almost all wavelengths from 400 nm to 500 nm, High Performance Optics' technology selectively blocks light from 420 nm to about 450 nm. As a result, lenses or glasses made with the selective filter would not distort low-light vision or cause the yellowing effect associated with some blue blocking filters, the company's President and Chief Executive Officer **Michael B. Packard** told PRIMARY CARE OPTOMETRY NEWS.

"When we do selective filtering rather than broad blue blocking there are a few advantages," he said. "One is that you can still greatly reduce the cell death impact of blue light on the retinal pigment epithelium (RPE). The other is that because of the way the eye works and the fact that the blue violet light range tends to scatter light going to the retina, when we remove some of it, we improve contrast sensitivity for the wearer. When you do that, he or she perceives improved vision."

## Like sunscreen for the eye

The protective effect offered by this filtering technology functions by reducing lifetime exposure to this potentially harmful light. Although the long-term effects of blue light absorption are difficult to prove in a human chronic study, many believe that blue light can affect cell death of the RPE. Hypothetically, reducing exposure long term might mitigate the potential consequences.

"What we know is that the effects of blue light on the eye, just like UV on the skin, are cumulative over a lifetime," PCON Editorial Board Member **Leo P. Semes, OD**, said in an

interview. "The earlier you can start, the more preventive effect there will be. Excluding blue light from the eye may be as important as safe exposure to [ultraviolet radiation] for the skin."

According to laboratory studies, blue light may activate compounds that accumulate naturally in the RPE over the course of a person's lifetime, triggering an oxidative process that can lead to irreversible damage or apoptosis. **Janet R. Sparrow, PhD**, of Columbia University, who has studied and isolated light wavelengths and their effect on retinal cell activity, said there are numerous such compounds found in the RPE, and each one reacts to different wavelengths of light. For instance, some compounds become active at around 440 nm, while others will become active at 430 nm or 490 nm.

In research looking specifically at the High Performance Optics technology, Dr. Sparrow noted that filters infused with a selective light filtering dye protected against loss of viability in RPE cultures when exposed to blue light, with the extent of the protection correlating positively with the concentration of dye in the filter.

"Reducing blue light would theoretically reduce photoreactivity" of the compounds commonly found in the RPE, Dr. Sparrow told PCON. In turn, the protection against photoreactivity would have the hypothetical benefit of cutting off the mechanism of action that leads to downstream oxidative degradation of retinal cells, she said.

## Further studies needed

While early work indicates that the technology could offer a unique and beneficial filtering property to glasses, contact, IOLs, sunglasses or even auto glass, studies to this point have taken place under controlled laboratory conditions. And, while prototypes have been developed, they have not been tested in humans. As a result, the commercial viability of the product remains somewhat unknown. Chronic exposure studies involving laboratory animals will begin shortly, Mr. Packard said.

"Our intellectual property covers all devices and all ways of applying it," he said. "We are in discussions with potential strategic partners. We offer a value-added technology."

Use of the pigment in spectacles would require no regulatory approval, so a commercial product for eye wear could be marketable within 12 months, Mr. Packard said. However, development of contact lenses and IOLs using

the added feature would take longer because of U.S. Food and Drug Administration approval requirements. □

## For more information:

**Michael B. Packard** is president and chief executive officer of High Performance Optics. He can be reached at HPophthalmics@aol.com. **Leo P. Semes, OD**, can be reached at (205) 934-6773; fax: (205) 934-6758; lsemes@uab.edu. Dr. Semes is an uncompensated advisory board member for High Performance Optics. **Janet R. Sparrow, PhD**, has no direct financial interest in the products mentioned in this article, nor is she a paid consultant for any companies mentioned.

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