

# LARGE STUDY OF KERATOCONUS REVEALS HIDDEN RISK FACTORS

A large new study revealing previously unknown risk factors associated with keratoconus could help more people receive newer treatments that can slow the problem and protect their vision, according to University of Michigan Health System researchers.

The study, published in *Ophthalmology*,<sup>1</sup> was conducted to determine whether an association exists between common systemic diseases, sociodemographic factors, and keratoconus. In the study, 16,053 patients with keratoconus were matched 1:1 with individuals without keratoconus.

The investigators found that blacks had 57% higher odds (adjusted OR, 1.57; 95% CI, 1.38–1.79;  $P < .001$ ) and Latinos had 43% higher odds (adjusted OR, 1.43; 95% CI, 1.26–1.62;  $P < .001$ ) of being diagnosed with keratoconus compared with whites. Asians had 39% reduced odds (adjusted OR, 0.61; 95% CI, 0.50–0.75;  $P < .001$ ) of being diagnosed with keratoconus compared with whites.

Patients with uncomplicated diabetes had 20% lower odds of keratoconus (adjusted OR, 0.80; 95% CI, 0.71–0.90;  $P = .002$ ), and patients with diabetes complicated by end-organ damage had 52% lower odds of having keratoconus (adjusted OR, 0.48; 95% CI, 0.40–0.58;  $P < .001$ ) compared

with those without diabetes mellitus. Patients with collagen vascular disease had 35% lower odds of keratoconus (adjusted OR, 0.65; 95% CI, 0.47–0.91;  $P = .01$ ). Other conditions found to be associated with increased odds of keratoconus included sleep apnea (adjusted OR, 1.13; 95% CI, 1.00–1.27;  $P = .05$ ), asthma (adjusted OR, 1.31; 95% CI, 1.17–1.47;  $P < .001$ ), and Down syndrome (adjusted OR, 6.22; 95% CI, 2.08–18.66;  $P < .001$ ). There was no association between keratoconus and allergic rhinitis, mitral valve disorder, aortic aneurysm, or depression ( $P < .1$  for all comparisons).

“Eye health relates to total body health, and we as ophthalmologists need to be aware of more than just eyeballs when we see patients,” first author Maria Woodward, MD, said in a news release. Clinicians caring for patients with keratoconus should inquire about breathing or sleeping and, when appropriate, refer patients for evaluation for sleep apnea or asthma, the study authors concluded. Patients with diabetes have lower risk of keratoconus potentially because of corneal glycosylation, they wrote.

1. Woodward MA, Blachley TS, Stein JD. The association between sociodemographic factors, common systemic diseases, and keratoconus: an analysis of a nationwide health care claims database [published online ahead of print December 17, 2015]. *Ophthalmology*. doi: <http://dx.doi.org/10.1016/j.ophtha.2015.10.035>.

## Three-Year Benefits of Combined iStent and Cataract Surgery Seen

A study published in the *Journal of Cataract and Refractive Surgery* showed that use of the iStent Trabecular Micro-Bypass Stent (Glaukos) in conjunction with cataract surgery provided a 36% reduction in mean IOP and an 86% reduction in the mean number of glaucoma medications 3 years after surgery, according to a company news release.

The prospective, open-label, nonrandomized study was conducted at the Eye Clinic Marienplatz in Munich, Germany, by Tobias H. Neuhann, MD. The goal was to assess the long-term postoperative outcomes of one iStent implanted during cataract surgery in patients with primary open-angle glaucoma, pseudoexfoliation glaucoma, secondary or posttraumatic glaucoma, or ocular hypertension. There was no preoperative medication washout period, and

40% of eyes had undergone previous glaucoma surgeries (primarily laser procedures).

In the study, a single iStent was implanted through the same incision used for cataract surgery in a consecutive series of 62 eyes of 43 patients. In 39 eyes followed through 3 years, the mean IOP at endpoint was 14.9 mm Hg, compared with a mean preoperative IOP of 23.4 mm Hg. In the same 39 eyes, the mean number of glaucoma medications used 3 years after surgery declined to 0.3, compared with a mean 1.9 medications at patients' preoperative visits. No operative complications occurred during cataract surgery or during stent implantation. Over the 3-year follow-up, five secondary surgeries, two postoperative ocular sequelae, and two nonocular adverse events were reported.

“These data show that implantation of a single iStent in conjunction with microincisional cataract surgery provided a sustained reduction in IOP and medication burden with

favorable safety through 3 years postoperative for this patient population with moderate and varied types of glaucoma,” Dr. Neuhann said in the news release. “In the study, the decision to implant the iStent was based on the wish of the patient to reduce or possibly eliminate the burden of topical glaucoma medications and the intention to offer a surgical treatment for glaucoma with a favorable safety profile. We did not qualify [patients] based on specific inclusion or exclusion criteria. Consequently, the population studied in this series was representative of a European clinician’s real-world experience with a typical patient group.”

The iStent is approved in more than 20 countries worldwide.

## Novartis Outlines Restructuring of Alcon Division

Novartis outlined a wide-reaching restructuring plan in an attempt to revive its Alcon unit with the goal of returning its eye care business to growth by the end of the year, according to a company news release.

As part of its quarterly earnings release, Novartis outlined changes to the leadership and structure of Alcon, which reported a fall in sales and worse-than-expected fourth quarter profits. As part of the transition, Novartis said it would



narrow Alcon’s focus to surgical equipment and vision care products, including contact lenses. Alcon’s ophthalmic pharmaceuticals business will move to the company’s pharmaceuticals division, a move the company hopes will better leverage development and marketing capabilities.

Alcon reported net sales of US\$2.3 billion in the fourth quarter, down 6% from the same period last year. Alcon’s operating income decreased 36% to US\$132 million. Novartis CEO Joe Jiminez said the planned changes are expected to generate more than US\$1 billion in annual cost savings by 2020, with one-time restructuring costs of US\$1.4 billion to be spread over 5 years.

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As part of the restructuring plan, Novartis also announced a change in leadership at the Alcon unit. Mike Ball has been appointed Division Head and CEO of Alcon and will be a member of the Executive Committee of Novartis. He was previously CEO of Hospira, which was recently acquired by Pfizer. Prior to Hospira, he spent 5 years as President of Allergan, where he held a series of leadership positions during 16 years with the company. Mr. Ball succeeds Jeff George, who was named CEO of Alcon in April 2014 after spending about 8 years at Novartis at its generics division, Sandoz.

## Katena Products Acquires Sensor Medical Technology

Katena Products has acquired Sensor Medical Technology, a developer of single-use and reusable diagnostic and therapeutic lenses for the eye care market, according to a company news release. Terms of the deal were not disclosed.

## Topcon Forms Strategic Business Alliance With ifa systems

Topcon has acquired 50.1% of shares of ifa systems, a company that develops, markets, and provides consulting services for health IT solutions and sells electronic health record (EHR) systems connectable to various types of ophthalmic examination devices, according to a company news release.

By acquiring more than half of the outstanding common shares and majority rights, Topcon will integrate ifa's health IT solution into its eye care business unit and accelerate its growth strategy. Topcon will be able to cover not only vendor-neutral data management software but also comprehensive EHR systems. As a result, patients will save on waiting time at clinics and have the ability to reschedule their postoperative examinations, the news release said.

Clinics will be able to manage different vendor examination devices with one platform, and diagnoses can be made in remote locations using ifa's remote access system. These infrastructure items will be supplied by Topcon under the name Health IT Solutions, a service that can collectively manage and utilize all health care resources from screening, examination, diagnosis, and treatment to prognosis and management.

The first product from the collaboration is IMAGEnet Connect, a vendor-neutral software solution that connects to all Topcon devices and various non-Topcon ophthalmic devices and any practice management software. IMAGEnet Connect will be officially launched in spring 2016. ■

– Compiled by Steve Daily, Executive Editor, News;  
and Callan Navitsky, Senior Editor

### 1 WHO Leader: Zika Virus 'Spreading Explosively'

Between 3 and 4 million people could be infected with Zika virus in the Americas this year, the World Health Organization predicts.

[www.cnn.com/2016/01/28/health/zika-virus-global-response/index.html](http://www.cnn.com/2016/01/28/health/zika-virus-global-response/index.html)



### 2 Ebola Vaccine Deal Announced

Merck and Gavi, the global vaccine alliance, have signed a US\$5 million deal for an Ebola vaccine to protect the public against future outbreaks of the deadly disease.

<http://www.newsweek.com/ebola-vaccine-merck-gavi-5-million-417774>



### 3 Clues to Schizophrenia's Origins Uncovered

Some individuals might develop schizophrenia when a normal process of brain development goes haywire in adolescence and early adulthood, researchers report.

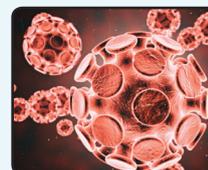
[www.webmd.com/schizophrenia/news/20160127/scientists-uncover-clues-to-origins-of-schizophrenia](http://www.webmd.com/schizophrenia/news/20160127/scientists-uncover-clues-to-origins-of-schizophrenia)



### 4 Insights Into How HIV Persists Despite Drug Therapy

Scientists have found that HIV replicates in lymphoid tissue, offering insight into how the virus persists in the body despite treatment with powerful drugs.

[consumer.healthday.com/aids-information-1/aids-and-hiv-sexually-transmitted-diseases-news-607/hiv-persists-in-body-despite-antiretroviral-therapy-707376.html](http://consumer.healthday.com/aids-information-1/aids-and-hiv-sexually-transmitted-diseases-news-607/hiv-persists-in-body-despite-antiretroviral-therapy-707376.html)



### 5 Number of UK Elderly Arriving by Ambulance Rose

The number of people aged 90 and over arriving at hospitals by ambulance has risen by 61% in 5 years, NHS figures show.

[www.theguardian.com/society/2016/jan/28/care-cuts-rise-ambulance-hospital-over-90s](http://www.theguardian.com/society/2016/jan/28/care-cuts-rise-ambulance-hospital-over-90s)



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