

# PREDICTION: HALF THE GLOBAL POPULATION TO BE MYOPIC BY 2050

By 2050, nearly 50% of the world's population will have myopia, according to a study in *Ophthalmology*.<sup>1</sup>

Investigators from Brien Holden Vision Institute, University of New South Wales Australia, and Singapore Eye Research Institute performed a systematic review and meta-analysis of the prevalence of myopia and high myopia and estimated temporal trends from 2000 to 2050 using data published since 1995. The primary data were gathered into 5-year age groups from 0 to 100 or greater, in urban or rural populations in each country, standardized to definitions of myopia of -0.50 D or less and of high myopia of -5.00 D or less, projected to the year 2010, and then meta-analyzed within Global Burden of Disease (GBD) regions. Any rural or urban age group that lacked data in a GBD region took data from the most similar region. The prevalence data were combined with urbanization and population data from the United Nations Population Department to estimate the prevalence of myopia and high myopia in each country of the world. These estimates were combined with myopia change estimates over

time derived from regression analysis of published evidence to project to each decade from 2000 through 2050.

Data from 145 studies were included, totaling a population of 2.1 billion individuals. The researchers estimated 1,406 million people with myopia (22.9% of the world population; 95% CI, 932–1,932 million [15.2%–31.5%]) and 163 million people with high myopia (2.7% of the world population; 95% CI, 86–387 million [1.4%–6.3%]) in 2000. They predicted that, by 2050, there will be 4,758 million people with myopia (49.8% of the world population; 95% CI, 3,620–6,056 million [95% CI, 43.4%–55.7%]) and 938 million people with high myopia (9.8% of the world population; 95% CI, 479–2,104 million [95% CI, 5.7%–19.4%]).

“Myopia and high myopia estimates ... suggest ... implications for planning services, including managing and preventing myopia-related ocular complications and vision loss among almost 1 billion people with high myopia,” the study authors wrote.

1. Holden BA, Fricke TR, Wilson DA, et al. Global prevalence of myopia and high myopia and temporal trends from 2000 through 2050 [published online ahead of print February 11, 2016]. *Ophthalmology*. doi:10.1016/j.ophtha.2016.01.006.

## Higher Dietary Nitrate, Green Leafy Vegetable Intake Can Lower Risk of Glaucoma

In a recent study, greater intake of dietary nitrate and green leafy vegetables was associated with a 20% to 30% lower risk of primary open-angle glaucoma (POAG).<sup>1</sup>

Elevated IOP and impaired autoregulation of optic nerve blood flow are implicated in POAG, and evidence suggests that nitrate or nitrite, precursors for nitric oxide, are beneficial for blood circulation. Kang and colleagues evaluated the association between dietary nitrate intake, derived mainly from green leafy vegetables, and POAG. The researchers followed up with participants biennially from 1984 through 2012 in the prospective cohorts of the Nurses' Health Study (63,893 women) and the Health Professionals Follow-up Study (41,094 men). During follow-up, 1,483 incident cases of POAG were identified. Participants were divided into quintiles of dietary nitrate intake.

1. Kang JH, Willett WC, Rosner BA, Buys E, Wiggs JL, Pasquale LR. Association of dietary nitrate intake with primary open-angle glaucoma: a prospective analysis from the Nurses' Health Study and the Health Professionals Follow-up Study [published online ahead of print January 14, 2016]. *JAMA Ophthalmol*. doi:10.1001/jamaophthalmol.2015.5601.

## Academic Medical Centers Slow to Disseminate Clinical Trial Results, Study Suggests

Despite the ethical mandate and expressed values and missions of academic institutions, there may be poor performance and noticeable variation in the dissemination of clinical trial results across leading academic medical centers, a study in the *British Medical Journal* suggests.<sup>1</sup>

The investigators conducted a cross-sectional analysis to determine the rates of publication and reporting of results within 2 years for all completed clinical trials registered in ClinicalTrials.gov across leading academic medical centers in the United States. Academic medical centers with 40 or more completed interventional trials registered on the website were included. Using the Aggregate Analysis of ClinicalTrials.gov database and manual review, the researchers identified all interventional clinical trials registered on ClinicalTrials.gov with a primary completion data between October 2007 and September 2010 and with a lead investigator affiliated with an academic medical center. The main outcome measure was the

proportion of trials that disseminated results, defined as publication or reporting of results on the website, overall and within 24 months of study completion.

The study authors identified 4,347 interventional clinical trials across 51 academic medical centers. Among the trials, 23% (n=1,005) enrolled more than 100 patients; 28% (n=1,216) were double-masked; and 50% (n= 2,169) were phase 2 through 4. Overall, academic medical centers disseminated results for 66% of trials (n=2,892), with 35.9% (n= 1,560) achieving this within 24 months of study completion. The proportion of clinical trials with results disseminated within 24 months of study completion ranged from 16.2% (6/37) to 55.3% (57/103) across academic medical centers. The proportion of clinical trials published within 24 months of study completion ranged from 10.8% (4/37) to 40.3% (31/77) across academic medical centers, whereas results reported on ClinicalTrials.gov ranged from 1.6% (2/122) to 40.7% (72/177).

“The lack of timely reporting and publication fundamentally impairs the research enterprise ... and threatens to compromise evidence-based clinical decision making,” the study authors wrote.

1. Chen R, Desai NR, Ross JS, et al. Publication and reporting of clinical trial results: cross sectional analysis across academic medical centers. *BMJ*. 2016;352:i637.

## Alcon Acquires Transcend Medical

Alcon has joined the microinvasive glaucoma surgery space by entering an agreement to acquire Transcend Medical, the maker of the CyPass micro-stent, according to a company news release. Terms of the deal were not disclosed.

The CyPass micro-stent is designed to treat less severe glaucoma. In 2015, a study of more than 500 patients with mild-to-moderate glaucoma undergoing cataract surgery randomized to receive the CyPass micro-stent or no further intervention met its primary and secondary endpoints. A 20% or greater reduction in IOP was seen with the device. Transcend Medical received the CE Mark for the device and is awaiting FDA approval.

## Smart Vision Labs Unveils Two Autorefractors

Smart Vision Labs released the SVOne Enterprise and SVOne Pro autorefractors, according to a company news release.

The SVOne Enterprise, a Hartmann-Shack wavefront aberrometer, is a fully automated self-guided objective refraction technology, combining the power of mobile computation, precision optics, and connectivity. Results from the voice-guided refraction examination are automatically uploaded to a secure, compliant cloud platform. According to the company, SVOne Enterprise offers eye care providers a patient engagement and monitoring tool.

The SVOne Pro is an upgraded version of the company's core technology, the SVOne autorefractor, but with an increased



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range of power and features that improve usability and accuracy. The new device features an open view channel so the operator can see patients' eyes when aligning the SVOne Pro. When the pupil is detected, the SVOne Pro auto-triggers to acquire wavefront data through its software.

The measurement parameters of the SVOne Enterprise and SVOne Pro have also been increased. The sphere range is -14.00 to 14.00 D, and the cylinder range is -7.00 to 7.00 D.

## Rayner Launches Ophteis FR Pro OVD

Rayner has launched a new OVD, Ophteis FR Pro, to protect the corneal endothelium from free radical energy caused by phacoemulsification.

According to a company news release, the bioengineered OVD contains sorbitol, added at 4% concentration to the 2% sodium hyaluronate. Sorbitol has a neutralizing, or scavenging, effect on free radicals, enabling corneal endothelial protection from phaco-induced trauma. Sorbitol also enables the OVD to perform as a viscoelastic.

Ophteis FR Pro provides superior chamber maintenance, is easy to remove at the end of surgery, and does not require refrigeration.

According to a company news release, studies have shown that the use of Ophteis FR Pro reduced cell death by an average of 27.8%, as compared with other market-leading OVDs.<sup>1</sup>

1. Unpublished data. University of Brighton, United Kingdom: In vitro chemical and phaco studies.

## Swiss Advanced Vision Launches InFo Instant Focus IOL

Swiss Advanced Vision has launched the InFo Instant Focus IOL, according to a company news release.

The InFo IOL is able to correct optical capacity without interfering with resolution and borrows its unique use of a single

light field of constant intensity from optical physics. Distinct images are projected onto the retina, and the brain is not confused by the multiplication of focal points. As a result, the functions of focus, optimal resolution and distance adaptation are restored. According to Swiss Advanced Vision, the InFo lens allows patients to achieve superior vision, regardless of distance or lighting conditions, with no halos or ghost images.

## Haag-Streit Launches Eye Patch

Haag-Streit has launched the Mask-it eye patch as an addition to its Octopus product range, according to a news release. The Mask-it is the first disposable eye patch for perimetric testing.

These size-adjustable paper eye patches provide fast and effective occlusion. The patches can be pulled from the dispenser, folded, and placed onto the patient's eye. Developed for single use, the hygienic Mask-it eye patch eliminates the risk of cross infection and is both lightweight and translucent to allow patients to keep both eyes open and retain natural vision during perimetric testing, the news release said.

## GlassesOff Now InnoVision Labs

GlassesOff has been renamed InnoVision Labs, according to a company news release. Under this enhancement of the company's image sharpness business segment, GlassesOff will remain the brand name of the existing mobile application that aims to eliminate dependence on reading glasses. Game Vision will be the brand name used for mobile applications with a focus on sports vision performance. ■

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



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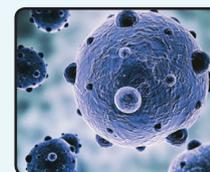
## CLICKWORTHY

MEDICAL NEWS FOR THE MINDFUL OPHTHALMOLOGIST

### 1 Bacteria 'See' Like Tiny Eyeballs

Biologists say they have solved the riddle of how a tiny bacterium senses light and moves toward it: The entire organism acts like an eyeball.

<http://www.bbc.com/news/science-environment-35502310>



### 2 Sufficient Sleep, Exercise May Reduce Risk of Stroke

Individuals who regularly exercise and get a full night's sleep may have a relatively lower risk of having a stroke, a large study suggests.

<http://www.webmd.com/stroke/news/20160218/sufficient-sleep-exercise-linked-to-lower-stroke-risk>



### 3 Magnetic Pulses to the Brain Deliver Long-Lasting Relief for Tinnitus

In the largest US clinical trial of its kind, researchers found that transcranial magnetic stimulation significantly improved tinnitus symptoms for more than half of study participants.

<https://www.sciencedaily.com/releases/2015/07/150716124118.htm>



### 4 Proton Pump Inhibitors Linked to Dementia

A new study has confirmed an association between proton pump inhibitors and increased risk for dementia in older patients.

<http://www.medscape.com/viewarticle/858909>



### 5 Ebola Survivors Face Long-Term Neurologic Problems

The Ebola virus may have lasting effects on the brains of survivors, causing headache, memory loss, and depressed mood, according to a study undertaken in Liberia.

<http://www.theguardian.com/global-development/2016/feb/25/ebola-survivors-face-long-term-neurological-problems-researchers-find>



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