

Optometry DistList

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Date: 04 October, 2016

From: Rasin Majid (rasinmajid@gmail.com)

Subject: **Researchers Report Invention of Glucose-Sensing Contact Lens**

Blood testing is the standard option for checking glucose levels, but a new technology could allow non-invasive testing via a contact lens that samples glucose levels in tears.

"There's no non-invasive method to do this," said Wei-Chuan Shih, a researcher with the University of Houston who worked with colleagues at UH and in Korea to develop the project, described in the journal *Advanced Materials*.

But glucose is a good target for optical sensing, and especially for what is known as surface-enhanced Raman scattering spectroscopy, said Shih. The paper describes the development of a tiny device, built from multiple layers of gold nano-wires stacked on top of a gold film and produced using solvent-assisted nano-transfer printing, which optimized the use of surface-enhanced Raman scattering to take advantage of the technique's ability to detect small molecular samples.

Researchers created the glucose sensing contact lens to demonstrate the versatility of the technology. The contact lens concept isn't unheard of - Google has submitted a patent for a multi-sensor contact lens, which the company says can also detect glucose levels in tears - but the researchers say this technology would also have a number of other applications.

"It should be noted that glucose is present not only in the blood but also in tears, and thus accurate monitoring of the glucose level in human tears by employing a contact-lens-type sensor can be an alternative approach for non-invasive glucose monitoring," the researchers wrote.

For the complete article, please visit: <http://phys.org/news/2016-10-glucose-sensing-contact-lens.html>

Date: 04 October, 2016
From: Apoorva Chauhan (apoorva.chauhan@indiavisioninstitute.org)
Subject: **CooperVision Extends Charity Support for Another Three Years**

Contact lens manufacturer CooperVision has announced that it will continue as a 'global gold sponsor' of Optometry Giving Sight (OGS) for a further three years until the end of 2019.

After CooperVision renewed its sponsorship of the charity, OGS CEO, Clive Miller highlighted that its continued support of vision care projects is helping to eliminate uncorrected refractive error around the world and is expected to exceed \$2m (USD) by the end of 2016.

Mr Miller said: "We are delighted that CooperVision will continue to partner with us in this way. This kind of charitable financial support enables us to plan for the future and ensures that we are able to continue funding key programme areas including optometry development and child eye health."

CooperVision also supports a number of specific programmes in partnership with OGS, including the *One Bright Vision* initiative. In 2016, through this campaign, 30,000 children aged 7-12 in the Chennai region of India will have their vision screened. This follows a similar effort that screened 100,000 children in Tanzania from 2013-15.

President of CooperVision, Daniel G McBride, said: "The goals and mission of OGS are directly aligned with our CooperVision purpose to help improve the way people see each day. It's inspiring to know that hundreds of thousands of individuals are benefitting from initiatives funded in whole, or part, by our commitment."

For the complete article, please visit: <https://www.aop.org.uk/ot/industry/contact-lenses/2016/10/04/coopervision-extends-charity-support-for-another-three-years>

Date: 06 October, 2016
From: Tejpal Sohal (tejpal04@gmail.com)
Subject: **Vision Impairment a Growing Health Concern Among Malaysians**

54 out of every 1,000 Malaysians suffer from low-vision impairment owing to health defects, the Health Ministry's National Optometry Services head Dr Nur Zahirah Husain revealed. She said that an estimated 15,000 people nationwide suffer from low-vision impairment based on statistics obtained from government hospitals. "The number would be higher if figures from private hospitals and other medical centres were to be included. This is a worrying concern, as there is a rising number of cases recorded each year," said Dr Nur Zahirah.

She added that government hospitals nationwide recorded 1300 low-vision impairment cases for 2013, 1400 cases for 2014 and 1600 for last year. "Among the factors causing low-

vision impairment are diseases like glaucoma, diabetes, age-related degeneration, cataracts, retinal disease and uncorrected refractive error. “A majority of the patients are 50 years and above,” she said at the opening of the country’s first visual rehabilitation centre at the Sultanah Nur Zahirah Hospital in Batu Burok.

“The patients have better self-confidence both at home and their workplace, rather than helplessly groping around, which can lead to accidents,” said Dr Azimi. Dr Nor Fariza said that the National Eye Survey for 2014 found that cataracts account for 68 % of low-vision impairment, followed by uncorrected refractive error (14 %) and diabetic retinopathy (6 %).

For the complete article, please visit:

<http://www.nst.com.my/news/2016/10/178008/vision-impairment-growing-health-concern-among-malaysians>

Date: 08 October, 2016

From: B. Pavani (optompavani@gmail.com)

Subject: **Vitamin A prevents night blindness, yes, but does Golden Rice?**

Journalist Will Saletan argues that Golden Rice, which has been genetically engineered to contain Vitamin A precursors, has not been welcomed by the anti-GMO crowd with open arms. But what Saletan fails to mention is that the science is still out on whether golden rice is actually the boon it’s claimed to be.

The best evidence we have is that the compounds in the rice are converted to Vitamin A in the human system, but this isn’t enough to say that it’s healthy — Saletan makes a lot of hay out of the fact that anti-GMO activists often can’t point to specific known harms, but instead must rely on fears of unknown future problems. The body’s processes for gleaned nutrition from a particular food are highly complex, and depend on many different factors such as the ratios in which the nutrients are presented to the body, the form in which they greet your digestive system, and the composition of your gut biome.

While nobody denies that balanced whole-food diets prevent negative health effects of Vitamin A deficiency, the evidence is lacking for Golden Rice: Although studies have indeed shown that some biomarkers improve upon ingestion of Golden Rice, no studies to date show that eating Golden Rice actually prevents night blindness. Even industry mouthpieces say this. So while it’s a promising start that Golden Rice consumption is associated with higher levels of serum retinol, until we have evidence that this actually leads to less night blindness, the benefits are still theoretical, and the sensible response to Golden Rice is a studied skepticism.

For the complete article, please visit:

<https://www.geneticliteracyproject.org/2015/07/20/vitamin-a-prevents-night-blindness-yes-but-does-golden-rice/>

Date: 12 September, 2016

From: Sailakshmi Sridharan (sailuxopto86@gmail.com)

Subject: **Are Optometrists Qualified to Manage Age-Related Macular Degeneration?**

Care for patients with neovascular AMD is less than patient-centered, owing to long wait times and the challenges of monthly appointments for patients. These frequent visits come at a substantial cost to patients in terms of time and energy. A recent article estimated the mean annual societal cost of neovascular AMD to be nearly \$40,000/patient.

One potential solution is a greater utilization of optometrists in the management of these patients. The biggest question that remains is whether optometrists can provide the same quality of care for these patients as ophthalmologists.

The Effectiveness of Community Versus Hospital Eye Service Follow-up (ECHOES) trial explored whether a new model using optometrists for follow-up exams for patients with quiescent neovascular AMD was safe and effective.

All professionals received training on the proper classification of images and were required to successfully meet performance criteria to participate in the trial. The participants were presented with baseline and follow-up images and visual acuities in each vignette and were asked to classify each case as quiescent, suspicious, or reactivated. A group of 96 clinicians consisting of an equal number of optometrists and ophthalmologists completed the training and vignettes.

The accuracy of optometrists' and ophthalmologists' decision-making was nearly identical. Optometrists and ophthalmologists classified 84.4% and 85.4% of cases correctly, respectively, which led researchers to conclude that optometrists' ability is not inferior to ophthalmologists' ability to make decisions about neovascular AMD. The number of sight-threatening errors made by optometrists and ophthalmologists was also virtually indistinguishable, with each group making such an error in approximately 6% of cases.

There were, however, some notable differences in performance between optometrists and ophthalmologists. Optometrists were significantly less confident than ophthalmologists in their choices despite achieving a similar accuracy. Nearly 60% of ophthalmologists were "very confident" in their classifications, whereas only 30% of optometrists were "very confident" with their choices. Nearly 90% of optometrist desired additional training prior to image classification, but the majority of ophthalmologists felt that the training offered was sufficient.

This trial was very small and relied exclusively on virtual decision-making, so making a definitive judgment from these data is ill-advised. It is important to remember that this study was done in the United Kingdom, where training for optometrists is significantly shorter, a factor that may have contributed to the lack of confidence expressed by the optometrists in this trial.

One of the primary benefits of optometrists participating to a greater degree in the co-management of patients with neovascular AMD would be the potential savings. Ultimately, expanding the roles of both technology and optometrists in the follow-up of patients with neovascular AMD may be the best way to improve the quality of care for patients with this debilitating condition.

For more information, please visit: http://www.medscape.com/viewarticle/869576_2

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