Optometry DistList Instance 2017: 48 Monday, 31 July2017

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Date: 17 July, 2017 From: Suharsha PVN (pvnssuharsha@gmail.com) Subject: Contact lens in eye – A "blueish mass"?

A rare case report of a 67 year old woman in UK, who had reported to the eye hospital for cataract consultation, discovered a "blueish mass" of 17 contact lenses hidden in the eyelids of the patient eye. The patient was unaware of the missing contact lenses and related her discomfort in the eyes due to dry eye or ageing. During her pre-operative assessment, the patient did not report any symptoms associated with contact lens discomfort.

On operating for the cataract surgery, the surgeons discovered a large mass with all the missing 17 contact lenses stuck together under the eyelids. The patient reported with more comfort in the eye after two weeks of removal of mass. This case report is unique and published for public awareness about the need for regular follow-up's to monitor successful contact lens wear.

For the complete article, please visit:

http://www.bmj.com/content/358/bmj.j2783?hwoasp=authn%3A1499535063%3A1242 0455%3A1453963375%3A0%3A0%3ARYkzIflX5Sd3CoasTmfM0w%3D%3D

Date: 19 June 2017 From: Jissa James (jissa.james@indiavisioninstitute.org) Subject: Dressmakers found to have needle-sharp 3-D vision Study finds seamstresses possess stereoscopic superpowers. New research from the University of California, Berkeley suggests that the 3D or "stereoscopic" vision of dressmakers is as sharp as their needles. Stereoscopic vision is the brain's ability to decode the flat 2D optical information received by both eyes to give us the depth of perception needed to thread a needle, catch a ball, park a car and generally navigate a 3D world.

Using computerized perceptual tasks, researchers from UC Berkeley and the University of Geneva, Switzerland, tested the stereoscopic vision of dressmakers and other professionals, and found dressmakers to be the most eagle-eyed.

The results, published in the journal Scientific Reports, show dressmakers to be 80 percent more accurate than non-dressmakers at calculating the distance between themselves and the objects they were looking at, and 43 percent better at estimating the distance between objects.

What researchers are still determining is whether dressmaking sharpens stereoscopic vision, or whether dressmakers are drawn to the trade because of their visual stereo-acuity.

It has generally been assumed that surgeons, dentists and other medical professionals who perform precise manual procedures would have superior stereovision. But previous studies have shown this not to be the case.

A better understanding of dressmakers' stereoscopic superpowers will inform ongoing efforts to train people with visual impairments such as Amblyopia or "lazy eye" to strengthen their stereoscopic vision.

In addition to helping people with sight disorders, improved stereoscopic vision may be key to the success of military fighters, athletes and other occupations that require keen hand-eye coordination. For example, the 17th-century Dutch painter Rembrandt, whose self-portraits occasionally showed him with one lazy eye, is thought to have suffered from stereo blindness, rendering him with flat vision. Some vision scientists have posited that painters tend to have poorer stereovision, which gives them an advantage working in 2D.

To read in detail click here https://www.nature.com/articles/s41598-017-03425-1

Date: 30, july 2017 From: Revanth Reddy (revanth.kumar@indiavisioninstitute.org) Subject: Paediatric Perimeter: A new boon to the infants! Invented by the scientist at L.V.Prasad Eye Institute, Hyderabad Paediatrics is one of the most challenging age group for assessing the visual field defects. Visual field defects in these eyes are detected at adulthood only, where a reliable response is found out of the conventional visual field instruments like the Humphrey visual fields test. There is no accurate quantification of the visual field except like the usual trial and error method of testing by bringing an object from peripheral field of vision.

Peadiatric perimeter device consists of a hemispherical dome fitted with LEDs in all directions which are controlled using a computer program. The infant is placed inside the dome in the lying down position. The baby's eye and head movements when the LED is switched on randomly are monitored by an infrared camera mounted on the top of the dome. The test takes only 6-10 minutes .The reaction time (time taken for the infant to look at the LED after it is switched on) measured helps identifying infants with developmental delay — healthy infants react within 380 milliseconds and those with developmental delay took 663 milliseconds.

To measure the area of vision, the LED was switched along the dome starting from the left and right sides to the centre, and also from front to back. The infants gaze was monitored by the camera and the degree of eye movements along with the reaction time was calculated to identify visual field defects. Many neurological factors can cause impairments in the vision of an infant. The device was validated using adults with normal vision and those with glaucoma and retinal defects.

The device is the result of collaborative effort of optometrists, ophthalmologists, engineers and designers from all over the world at Srujana Center for Innovation at the institute at L.V. Prasad Eye Institute, Hyderabad.

To read in detail, please click: https://www.ncbi.nlm.nih.gov/pubmed/28685105

Date: 10 July, 2017 From: Maheswari Srnivasan (<u>maheswari.srinivasan@dragarwal.com</u>) Subject: Full-time faculty position at Vasan Institute of Ophthalmology & Research, Salem

The ideal candidate will possess Bachelors or Masters Degree in optometry. Fresh optometry graduates are also welcomed. Pay should be commensurable based on academic and clinical experience.

Interview/contact details: Interested candidates may apply by sending their latest CV to Ms. Preetha Ramprasat at <u>preethasampat@gmail.com</u>. For any more queries contact Ms.Preetha Ramprasat on +91 9585548940.

Date: 6th july, 2017 From: sandhya sekhar (sandhya.shekar@indiavisioninstitute.org) Subject: A thinner, flatter lens for lighter, less-bulky cameras, telescopes, and cellphones, Researchers by SEAS researchers

Curved lenses like those in cameras or telescopes are stacked to reduce distortions and clarify images. That's why high-powered microscopes are so big and telephoto lenses so long. While lens technology has improved, it is still difficult to make a compact and thin lens.

But researchers from the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) have demonstrated the first flat or planar lens that works highly efficiently within the visible spectrum of light, covering the whole range of colors from red to blue.

In order to focus red, blue and green light in the visible spectrum, they needed a material that wouldn't absorb or scatter light. They need a material that would strongly confine light with a high refractive index and a material already used in industry.

The team used titanium dioxide, a material found in everything from paint to sunscreen, to create the nanoscale array of smooth and high-aspect ratio nanostructures that form the heart of the meta-lens.

The lens can resolve nanoscale features separated by distances smaller than the wavelength of light. It uses an ultrathin array of tiny waveguides, known as a metasurface, which bends light as it passes through. The research is described in the journal Science.

Correcting for chromatic spread over the visible spectrum in an efficient way, with a single flat optical element, was until now out of reach," "The Capasso Group's meta-lens developments enable the integration of broadband imaging systems in a very compact form, allowing for next generations of optical sub-systems addressing effectively stringent weight, size, power, and cost issues, such as the ones required for high performance AR/VR [augmented reality/virtual reality] wearable displays."

"We wanted to design a single planar lens with a high numerical aperture, meaning it can focus light into a spot smaller than the wavelength," said Mohammadreza Khorasaninejad, a postdoctoral fellow in the Capasso Lab and first author of the paper. "The more tightly you can focus light, the smaller your focal spot can be, which potentially enhances the resolution of the image."

The team designed the array to resolve a structure smaller than a wavelength of light, around 400 nanometers across. At these scales, the meta-lens could provide better focus than a state-of-the art commercial lens.

For the complete article, please visit <u>http://news.harvard.edu/gazette/story/2016/06/a-thinner-flatter-lens/</u>

Date: 2nd August, 2017

From: Sheeba S (<u>sheeba.swarna@indiavisioninstitute.org</u>)

Subject: Brien Holden Vision Institute Academy's Managing Myopia – Online course

IVI is pleased to announce the **Brien Holden Vision Institute Academy's Managing Myopia** online course for optometry professionals and educators. This course takes the latest advances in research and makes them clinically relevant for optometrists. At the end of the course, you should be able to successfully implement an appropriate myopia management plan to slow myopia progression in your patients.

This course is designed to be an engaging learning experience with videos, interactive case studies and a webinar to allow participants to engage, apply and relate their learning to their daily practice

Course facilitators

- Monica Jong, Senior Research Fellow, Brien Holden Vision Institute
- Judith Stern, Manager of Learning and Teaching, Brien Holden Vision Institute
- Michael Morton, Global Education Officer, Brien Holden Vision Institute

Guest speakers:

- Associate Professor Padmaja Sankaridurg, Brien Holden Vision Institute
- Prof Earl Smith III, University of Houston
- Dr Isabelle Jalbert, UNSW Australia
- Dr Alex Hui, UNSW Australia
- Dr Pauline Kang, UNSW Australia
- Dr Daniel Tilia, Brien Holden Vision Institute

Course Duration: 14th August to 4th September, 2017

Deadline for Registration: Thursday August 17th 2017.

This program has been awarded 8 CE points by Optometry Council of India (OCI)

For more details, please visit http://www.indiavisioninstitute.org/upcoming-programs-view.php?id=4

India Vision Institute Plot No 212, No 45, Palkalai Nagar, 7th Link Road, Palavakkam, Chennai - 600041, TN, India Tel. No. : +91 - 44 – 24515353

Email: <u>ivi@indiavisioninstitute.org</u> Web: www.in<u>diavisioninstitute.org</u>

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