

Optometry DistList

Instance 2016: 30

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Date: 31 June, 2016

From: Apoorva Chauhan (apoorva.chauhan@indiavisioninstitute.org)

Subject: **Mysterious Syndrome Impairing Astronauts' Eyesight**

In 2005, astronaut John Phillips took a break from his work on the International Space Station and looked out the window at Earth. When he gazed down at the planet, the Earth was blurry. That was strange—he'd always had 20/20 vision. He wondered: was his eyesight getting worse?

During Phillips' post-flight physical, NASA found that his vision had gone from 20/20 to 20/100 in six months. After undergoing MRIs, retinal scans, neurological tests, and a lumbar puncture, the tests showed that not only had his vision changed, but his eyes had changed as well. The back of his eye had gotten flatter, pushing his retina forward. He had choroidal folds, which are like stretch marks on the back of the eye. His optic nerve was inflamed. Phillips became the first widely recognized case of a mysterious syndrome that affects 80 percent of astronauts on long-duration missions. The syndrome could interfere with plans for future crewed space missions, including trips to Mars.

Visual Impairment Intracranial Pressure syndrome (VIIP) is named for the leading theory to explain the syndrome. On Earth, gravity pulls bodily fluids down toward the feet. That doesn't happen in space, and it's thought that extra fluid in the skull increases pressure on the brain and the back of the eye. VIIP has now been recognized as a widespread problem, and there has been a struggle not only to understand its cause, but to study it at all. The theory that fluid builds up in the skull during space flight hasn't actually been tested. The only proven methods of measuring intracranial pressure are invasive: a lumbar puncture or drilling a hole into the skull.

Karina Marshall-Goebel at the Institute of Aerospace Medicine in Germany is trying to study VIIP using a head-down tilt test. Participants' entire bodies are tilted slightly to simulate the fluid shift in space, but she said it's not ideal. The study is still affected by gravity, and they can't keep people tilted for as long as astronauts live in space. "It's a unique environment, you can't replicate it without going into space," she said.

Before a human trip to Mars, which NASA wants to achieve by the 2030s, researchers agree that VIIP needs to be understood much better. Mars is a six- to nine-month journey away.

VIIP could be the first sign of greater dangers to the human body from microgravity. "We're seeing the visual and neural, ophthalmic manifestations of it," said Barratt. "I'm fairly certain this is a bit more global than that."

Richard Williams, the chief health and medical officer at NASA, agrees that what we don't know about VIIP still poses the biggest threat. Ironically, one of the only ways to get more knowledge is spend more time in microgravity.

For the complete article, please visit: <http://www.ndtv.com/world-news/mysterious-syndrome-impairing-astronauts-eyesight-1429744>

Date: 2 July, 2016

From: Amarnath Venkat (amaropt@gmail.com)

Subject: **FDA Approves New Medication for Dry Eye Disease**

The U.S. Food and Drug Administration approved Xiidra (lifitegrast ophthalmic solution) for the treatment of dry eye disease, on Monday, July 11, 2016. Xiidra is the first in a new class of drugs, called lymphocyte function-associated antigen 1 (LFA-1) antagonist, approved by the FDA for dry eye disease. "Normal tear production is needed for clear vision and eye health," said Edward Cox, M.D., director of the Office of Antimicrobial Products in the FDA's Center for Drug Evaluation and Research. "This approval will provide a new treatment option for patients with dry eye disease."

The safety and efficacy of Xiidra was assessed in over a thousand patients, in four separate, randomized, controlled studies. These studies included patients 19–97 years of age, of which the majority was female (76 percent). Patients were randomized equally to receive either Xiidra or placebo eye drops, which were used twice a day for 12 weeks. The studies found that groups treated with Xiidra demonstrated more improvement in both the signs and the symptoms of eye dryness than the placebo groups

The most common side effects of Xiidra include eye irritation, discomfort or blurred vision and an unusual taste sensation (dysgeusia). It is manufactured by Shire US Inc., of Lexington, Massachusetts.

For the complete article, please visit:

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm510720.htm>

Date: 5 July, 2016

From: Sneha Krishnan (iyers3012@gmail.com)

Subject: **EnChroma's Accidental Spectacles Find Niche among the Colour Blind**

The eyeglass lenses that Don McPherson invented were meant for surgeons. But through serendipity he found an entirely different use for them: as a possible treatment for colour blindness. Mr. McPherson is a glass scientist and an avid Ultimate Frisbee player. He discovered that the lenses he had invented, which protect surgeons' eyes from lasers and help them differentiate human tissue, caused the world to look candy-colored — including the Frisbee field.

Mr. McPherson was intrigued. He said he did not know the first thing about colour blindness, but felt compelled to figure out why the lenses were having this effect. Mr. McPherson went on to study colour blindness, fine-tune the lens technology and start a company called EnChroma that now sells glasses for people who are colour blind.

Mr. Dykes countered that the glasses were not meant to be a cure, in the same way that reading glasses don't cure farsightedness. He also acknowledged that the glasses don't work for all types of colour blindness and said the company had a 30-day return policy for that reason. "It works in some cases and not others," he said. "It's not a magical cure or a cheat."

For the complete article, please visit:

<http://www.nytimes.com/2015/08/16/business/enchromas-accidental-spectacles-find-niche-among-the-colorblind.html?rref=collection%2Ftimestopic%2FEyeglasses&r=2>

Date: 10 July, 2016

From: M. Chandrashekar (m.chandrashekar@indiavisioninstitute.org)

Subject: **'Blind' Janet Can See Once More**

The first corneal endothelial transplant was performed in the county on 52-year-old Janet Brumpton from Market Rasen. This involved the damaged inner layer of her cornea being replaced and within one week her vision had drastically improved.

She feels she has 'got her life back' thanks to the innovative treatment.

The corneal transplant is performed on patients with eye conditions such as corneal endothelial dystrophy, which affects the innermost layer of the cornea. Corneal endothelial transplantation involves no stitches as the corneal transplant is attached and held in place using an air bubble, which naturally attaches itself to the deep layer of the cornea a few days later.

This leads to quick visual rehabilitation with no need for contact lenses or further surgeries to correct the distorted surface of the cornea.

For the complete article, please visit:

<http://www.marketrassenmail.co.uk/news/health/health-news/blind-janet-can-see-once-more-1-7477549>

Date: 12 July, 2016

From: Deepika Reddy (deepikakommanapalli@gmail.com)

Subject: **The Nature of Seeing: How the Brain Constructs the Visual World**

Michael Buice from the Allen Institute for Brain Science in Seattle explains how our brains construct the visual world that surrounds us.

Please click on the below link to watch the video:

<http://www.brainfacts.org/sensing-thinking-behaving/senses-and-perception/articles/2016/the-nature-of-seeing-how-the-brain-constructs-the-visual-world-071216/>

IVI Optometry Wizard of the Year 2016

A national quiz organized by India Vision Institute (IVI) for Optometry practitioners, educators and students to test their knowledge in Optometry among their peers. The questions will encompass all major disciplines of optometry.

Eligibility: Optometry practitioners, educators and students.

Prize:

The prize money the finalists win will be based on the number of correct answers. The maximum prize money will be INR 10,000.

All three finalists will receive a memento from IVI along with a certificate.

For further details, please visit: <http://www.indiavisioninstitute.org/upcoming-programs-view.php?id=69>

Workshop on Optics and Dispensing

IVI is conducting a two-day workshop on 29 & 30 July at India Vision Institute, Hyderabad on Optics and Dispensing focusing on the concepts of Thick lenses & Thin lenses, Prisms, Third order aberrations and ways to minimize it, Gullstrand's schematic eye, Polarized and unpolarized light, types of lenses, Lens materials & treatments, Frames, Basics of PALS, trouble-shooting & latest advancements in PALs and much more.

The workshop will be facilitated by Dr. L Srinivasa Vardharajan, Research Scientist, Visual Optics and Psychophysics Lab, LVPEI, Hyderabad; Mr Abhishek Kalbarga, General Manager, India Vision Institute and Mr Saif Ahmed, Senior Varilux Consultant (AP and Telangana) Essilor India Pvt. Ltd.

For more details, please visit: <http://www.indiavisioninstitute.org/upcoming-programs-view.php?id=67>

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IVI invites contributions including latest updates and new developments in Optometry, innovative ideas, optometry job vacancies, conferences, links to interesting articles and other latest happenings. All contributions need to be in word format (not more than two to three paragraphs including a title).

Send in your contributions with your name and contact details to info@indiavisioninstitute.org
