Optometry DistList
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Date: 25 February, 2017
From: Daniel Prakash (danielethakoti@gmail.com)
Subject: **Are 'Strobe Glasses' the Future of Injury Recovery?**

Using MRI scans on patients recovering from ACL reconstructions, researchers at The Ohio State University Wexner Medical Center discovered that their brains processed information from their injured leg differently than from their healthy leg — and differently than how uninjured people process info.

"When we asked participan0ts to move their leg in a simple bend, the MRIs showed they used a visual processing system, even though this was not a visual task," says Jimmy Onate, lead researcher and director of Health and Rehabilitation Sciences at OSU. "There was no reason to use their vision — they were not asked to avoid obstacles or use their eyesight in any way. But because nerve endings get damaged with musculoskeletal injuries, we think people begin relying on vision more to use, control, and monitor their movements."

The researchers have begun testing out a method to fix this disparity hoping patients to not depend on vision after ACL. They're having them wear stroboscopic eyewear during some physical therapy sessions. These glasses have shutters that open and close rapidly; creating a strobe light–like effect that interferes, distorts, and forces the body to move instinctively rather than by sight.

"We're taking away some of their vision but not blinding them completely and then also adding the visual-disturbance element."

Stroboscopic eyewear isn't entirely new in the world of sports. In 2013, Duke University researchers even tested them out on members of the NHL's Carolina Hurricanes. After wearing the glasses during their 16-day preseason training camp, players performed 18 percent better on shooting and passing tests than their teammates who didn't sport the specs.

Onate warns that people with seizures, migraines, or past concussions steer clear of strobe glasses because they may exacerbate symptoms. But for everyone else recovering from injury, he advocates trying them at home.

For the complete article, please visit: http://www.mensjournal.com/health-fitness/articles/are-strobe-glasses-the-future-of-injury-recovery-w452920

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Date: 25 February, 2017
From: Satish Raja (satishraja1980@gmail.com)
Subject: **World's First Braille Smartwatch Lets Blind People Feel Messages on Screen**

There are over 285 million visually impaired people in the world, and some of these lives are about to get a lot better. South Korean developer Dot has produced the world's first Braille smartwatch, and its features are just what you'd expect from a 21st century device.

The Dot displays information using 4 active dynamic Braille cells, and its users can select the speed at which the characters update. The Dot connects to a smartphone via Bluetooth (just like any other smartwatch) and can receive any text from any app or service (think Messenger, directions from Google Maps, etc.). Users can also send simple messages using its buttons on the side. The Dot also supports Open API, which means that anyone can develop or adapt apps for it.

Various digital devices for the blind have been around for some time now, but the vast majority of them use sound. This creates problems, because either a user has to plug in headphones and detach from surrounding sounds (that are vital to blind people), or make their information public. Also, existing digital Braille reading devices are mostly bulky and expensive – only about 5% of visually impaired people own one.

The Dot smartwatch has been in development for 3 years, and the company will finally start delivering its devices to some 140,000 backers. They plan to ship 100,000 watches in 2017, starting March, and the rest 40,000 next year. 1,000 units will also be sold on retail in London.

For photographs and video, please visit: http://www.boredpanda.com/blind-people-braille-smartwatch-dot/?utm_source=facebook&utm_medium=link&utm_campaign=BPFacebook

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Date: 1 March, 2017
From: Apoorva Chauhan (apoorva.chauhan@indiavisioninstitute.org)
Subject: **Asymmetric Vision in Cockeyed Squid**

Behavioral studies conducted by U.S. researchers indicate cockeyed squid evolved dimorphic eyes to see two different sources of light—bioluminescent pinpoints from the dark ocean below and shadowy outlines in the diffuse sunlight above. The team, made up of

scientists from Duke University, USA, and the Monterey Bay Aquarium Research Institute, USA, based its conclusions on more than 150 marine videos of the squid, and tests using visual simulations.

The squid's left eye is large with an elongated, tubular shape, while the right eye is small and more inconspicuous.

Thomas and colleagues from Sönke Johnsen's sensory biology lab at Duke viewed *in situ* video footage of the creatures collected over the past 25 years from remotely operated vehicles. There they observed the eye orientation of 152 *Histioteuthis heteropsis* and nine *Stimatoteuthis dofleini* squid.

H. heteropsis and *S. dofleini* dwell in the ocean's mesopelagic region, 200 to 1000 meters below the surface. Their dimly lit home has two very different sources of light: sunlight and bioluminescence. Johnsen's team says that in the mesopelagic region, light is either coming down through the water from the sun, or up from the dark depths of the ocean from bioluminescent organisms. This directionality makes viewer orientation and eye structure important factors in mesopelagic-region vision.

In watching the videos, the scientists noticed that the squid positioned themselves to have their larger left eye facing upward, while their smaller right eye faced downward. The researchers say that this orientation makes sense visually, as images produced by sunlight filtered down through the water are easier to detect with the larger eye that is oriented upward. Bioluminescence detection is optimal where sunlight is minimized, so downward viewing increases the contrast of bioluminescent signals against the dark waters.

Visual modeling results support the scientists' conclusion that the dimorphic eyes of these two species of squid are a response to the multidirectional light field of the mesopelagic region, and not an adaptation to variations in light brightness.

Interestingly, the team's models showed that a larger eye oriented downward can detect bioluminescence as well as the smaller eye. However, the smaller eye functions at a fraction of the "metabolic cost." "So while larger eyes can improve both sensitivity and resolution," say the authors, "selection probably favors an eye just large enough to perform a necessary visual task but no larger."

For the complete article, please visit: https://www.osa-opn.org/home/newsroom/2017/february/asymmetric_vision_in_cockeyed_squid/

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Date: 27 February, 2017
From: Clara Radha (maheshraj.mahedran@yahoo.com)
Subject: **Sharp Vision: New Glasses Can Help the Legally Blind See**

Jeff Regan was born with underdeveloped optic nerves and had spent most of his life in a blur. Then four years ago, he donned an unwieldy headset made by a Toronto company called eSight.

Suddenly, Regan could read a newspaper while eating breakfast and make out the faces of his co-workers from across the room. He's been able to attend plays and watch what's happening on stage, without having to guess why people around him were laughing.
The headsets from eSight transmit images from a forward-facing camera to small internal screens - one for each eye - in a way that beams the video into the wearer's peripheral vision. That turns out to be all that some people with limited vision, even legal blindness, need to see things they never could before. That's because many visual impairments degrade central vision while leaving peripheral vision largely intact.
But eSight still needs to clear a few minor hurdles. Among them: proving the glasses are safe and effective for the legally blind. While eSight's headsets don't require the approval of health regulators - they fall into the same low-risk category as dental floss - there's not yet firm evidence of their benefits. The company is funding clinical trials to provide that proof.

ESight CEO Brian Mech said the latest improvements might help insurers overcome their short-sighted view of his product. Mech argues that it would be more cost-effective for insurers to pay for the headsets, even in part, than to cover more expensive surgical procedures that may restore some sight to the visually impaired.

For the complete article and video, please visit:
http://www.houstonchronicle.com/business/article/Sharp-vision-New-glasses-can-help-the-legally-10961999.php
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Date: 28 February, 2017
From: M Chandrashekehr (m.chandrashekher@indiavisioninstitute.org)
Subject: **Workshop on Diabetic Retinopathy for Optometrists**

IVI is pleased to announce a one day workshop on Diabetic Retinopathy for Optometrists. The workshop will introduce the concepts of Diabetic Retinopathy and its management to Optometry Practitioners, Educators and Students. It will also orient the participants to categorize cases in Diabetic Retinopathy, latest advancements in Diabetic Retinopathy and much more.

Facilitators: *Dr Padmaja Kumari Rani M.S, FRCS, FICO, FNB (Retina) – Vitreo-Retina Consultant, L V Prasad Eye Institute, Hyderabad.*
Mr Karnati Bharath and Ms Sudipa Sahu – Consultant Optometrists, Smt. Kanuri Santhamma Centre for Vitreo Retinal Diseases, L V Prasad Eye Institute, Hyderabad

Workshop Date: Monday, 20 March 2017

Deadline for Registration: Wednesday, 15 March, 2017

"Funding for the Workshop on Diabetic Retinopathy was kindly provided by Optometry Giving Sight in association with ALCON Foundation"

To register, please click here http://www.indiavisioninstitute.org/upcoming-programs-view.php?id=92

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