

**Sight Loss Services, Inc.
Cape Cod and Islands
“The CandleLight” Newsletter
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**“What you do today can improve all your
tomorrows.”**

- Ralph Marston

Dry AMD Research Update

**A complete retinal replacement patch is the next
goal of The London Project to Cure Blindness**

**Professor Pete Coffey, director of The
London Project to Cure Blindness,
emphasised at Moorfields Eye Hospital
annual general meeting (AGM) that his team
had developed an affordable and effective
stem cell replacement for retinal damage
from dry AMD. In the project’s first stage,
researchers used human embryonic stem
cells to regrow retinal pigment epithelium
cells on an artificial membrane, creating a
specialised patch. This patch was then
surgically inserted, in a 45-minute
Moorfields operation, into the middle of the
retina in the trial patients. The official
research results for the first two patients to
receive the patch will be released shortly,**

but in the meantime, the research would enter the second phase. Instead of receiving an artificial membrane with just retinal pigment epithelial cells on, the next cohort of patients would receive a patch with all three layers of the retina, Professor Coffey said. “Blood cells, vascular cells, neural cells, support cells – it will rebuild the whole macula,” he added.

And this would be developed from the patient’s own cells, he explained, adding: “Using four genetic switches on a piece of skin, we can get the beginning cell that made you.”

The use of the patient’s cells meant that their DNA could also be studied at the same time, potentially allowing for a personalised diagnosis of their condition, as well as an individualised treatment, Professor Coffey told the AGM audience.

Following the second stage, which is being funded through a £3m donation from the Michael Uren Foundation, regulatory approval for general patient use will be sought.

Drug-dispensing contact lens effectively lowers eye pressure in glaucoma model

A contact lens designed to deliver medication gradually to the eye could improve outcomes for patients with conditions requiring treatment with eye drops, which are often imprecise and difficult to self-administer. In a study published online in *Ophthalmology*, a team of researchers have shown that a novel contact lens-based system, which uses a strategically placed drug polymer film to deliver medication gradually to the eye, is at least as effective, and possibly more so, as daily latanoprost eye drops in a pre-clinical model for glaucoma. In a study supported by a grant from the Boston Children's Hospital Technology and Innovation Development Office, the effect of this drug eluting contact lens was assessed. The researchers showed that the contact lens with lower doses of latanoprost delivers the same amount of eye pressure reduction as the eye drop version of the medication. The lenses delivering higher doses of latanoprost had better pressure reduction than the drops. Further study is needed to confirm the finding in the higher-dose lenses.

- **2.7 million people in the United States have glaucoma**
- **By 2030, 4.2 million people in the United States will have glaucoma**

Repurposing Medications

A study funded by the National Eye Institute is researching combinations of drugs already FDA-approved that may protect against the loss of retinal cells required for vision.

The drugs, which are currently used for a range of conditions, from lowering blood pressure to treating prostate disease, may eventually offer an option for preventing vision loss associated with the degeneration of cells in the retina. If the therapy's success is replicated in humans, it would represent an entirely novel approach to preventing visual impairment, said the study's principal investigator, Krzysztof Palczewski, Ph.D., chair of the Department of Pharmacology at Case Western Reserve University. "It's reassuring that the drugs used in the study are already being used in clinical practice, so we know their safety profile," Palczewski said. Future studies will

need to be conducted to ensure that there is no additional risk of toxicity when the low doses of the agents are used together.

<http://www.news-medical.net/news/20160804/Combinations-of-FDA-approved-drugs-may-prevent-vision-loss-linked-to-retinal-degeneration.aspx>

People who sleep primarily on their backs may have less severe dry eye symptoms

A single-center study conducted showed a strong correlation between sleep position and severity of dry eye symptoms. The findings suggest that patients might see a reduction in dry eye if they slept on their backs, in addition to continuing other forms of treatment, said Dr. Alevi, a cornea and refractive surgery fellow, Ophthalmic Consultants of Long Island in New York. Dr. Alevi and his colleagues speculated that when patients sleep on their sides, contact with either the hand or the pillow could be irritating their eye and aggravating dry eye symptoms. “We think that if we advise patients with severe dry eye to sleep on their backs, it could help them and provide them with another tool for dry eye relief,” Dr. Alevi added.

(adapted from Dr. Alevi’s presentation at the 2016 meeting of the American Society of Cataract and Refractive Surgery)

<http://ophthalmologytimes.modernmedicine.com/ophthalmologytimes/news/exploring-link-between-sleep-habits-dry-eye>
