

# London Project Aims to Cure AMD

Backers hope to develop surgical therapy to stabilize and restore vision.

BY LEAH D. FARR, ASSOCIATE EDITOR

With a little teamwork, a potentially ground-breaking surgical therapy capable of stabilizing and restoring vision in a vast majority of patients with age-related macular degeneration (AMD), will be taken to clinical trial in Europe.

Scientists and clinicians from the University College London (UCL), Moorfields Eye Hospital in London, and the University of Sheffield in the United Kingdom, are studying a therapy that would replace the faulty retinal cells that cause AMD. The therapy will be developed by the London Project to Cure AMD, in a collaborative effort to unite leading specialists in the field of ophthalmology.

The London Project's approach will involve production of a cell replacement therapy from human embryonic stem cells, which are effective in replacing dysfunctional retinal pigment epithelial (RPE) cells and photoreceptors—a major cause of vision loss for AMD patients. Researchers believe that this surgical therapy will be capable of stabilizing and restoring vision in the vast majority of patients. A number of tested and trialed surgical procedures using the patients' own cells have illustrated that a cell replacement therapy can achieve successful outcomes.<sup>1</sup>

Funded by a £4 million donation from a private American donor, the London Project, led by the UCL Institute of Ophthalmology, is an attempt to accelerate the technique's move from laboratory to clinic. The project's backers hope that it will expedite a therapy to stabilize and restore vision to the 14 million people suffering from AMD in Europe and many more around the world.

Professor Pete Coffey, BSc, from the UCL Institute of Ophthalmology and Director of the London Project said the project aims to deliver treatment for a disease which has no alternative therapy. "Using stem cells—that are far more adaptable—can only improve success of what has already been achieved," he said. "The treatment takes

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aim at both the nonneovascular and neovascular forms of AMD, as well as other conditions (eg, macular dystrophy). Initial trials, however, will be for the nonneovascular form because there is not current therapy available, and the clinical population is so large."

Lyndon Da Cruz, PhD, Lead Clinician and Consultant Ophthalmic Surgeon at Moorfields Eye Hospital, believes a benefit to the project is the ability for three parallel teams to work in conjunction.

This way, the group will be "respectively testing the cells for safety in Sheffield, confirming that the cells are RPE cells and preparing them in a form for transplant at the Institute of Ophthalmology and developing the strategies for the surgery and patient selection based on studies on transplanting autologous RPE at Moorfields," Dr. Cruz said in a UCL news release.

"This is achievable as a result of bringing together a number of groups who previously were trying to solve the same problem in isolation. The project aims to engage scientists, clinicians, and the public to ensure success through actively attracting and promoting the inclusion of other laboratories, hospitals, and institutions by an open access policy and by informing the public of the progress." ■

1. Lund RD, Adamson P, Sauve Y, et al. Subretinal transplantation of a genetically engineered human cell line prevents visual loss. *Proc Natl Acad Sci USA*. 2000. [Accepted for publication].

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