Other research

In addition to research that directly examines how inherited retinal diseases (IRDs) develop or how we can treat them, Retina Australia has proudly funded other research into how to advance research techniques and additional aspects of these conditions.

Three recent examples are discussed below, with further study reports available on our Research impact reports webpage.

Virtual reality

In 2024, Retina Australia is funding a project at the Save Sight Institute in Sydney, led by Dr Elisa Cornish, which is investigating the use of virtual reality to test vision. A significant challenge in IRD clinical trials is developing tests that can show how effective treatments are. It is of great importance to assess whether a treatment will help someone with their daily navigation, orientation and mobility needs, but it is very time-intensive and expensive to assess this in the real world. As such, Elisa's team will look at whether a virtual reality game could be used to test whether a person's vision has improved following treatment.

Sensory substitution devices and low vision aids

The development of advanced medical devices, like the bionic eye, has led to a great wealth of knowledge and expertise being developed in Australia on software algorithms to improve usability. A fantastic side effect of these achievements is that these software programs are now able to be used for other devices and low vision aids as well, improving the function of non-invasive aids.
Retina Australia supported a project in 2021 led by Associate Professor Lauren Ayton (University of Melbourne), to investigate using advanced software to improve the use of mobility aids. This included aids known as "sensory substitution devices", which use sound or tactile information to help people navigate their environment.

Advanced imaging

Another area of importance in IRDs is accurate and sensitive imaging of the retina. Most people with an IRD will have had many photos taken of their retinas, including colour photos and cross-sectional scans (known as optical coherence tomography).

New research is now investigating whether these images can be improved by using adaptive optics (which allows visualisation of single cells in the living eye) or hyperspectral cameras (which use multiple coloured lights to take a series of photos very quickly). The latter technique was the topic of a Retina Australia funded project in 2015, when Dr Marc Sarossy (RMIT University) built a prototype camera, which can determine which areas of the retina are not receiving enough oxygen.[1]

Last updated January 2024

Contact Retina Australia
info@retinaaustralia.com.au
(03) 9650 5088