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Fact Sheet: Nanosecond laser treatment

The Centre for Eye Research Australia (CERA) will conduct a clinical trial of a new laser treatment for age related macular degeneration (AMD).

What does this trial hope to achieve?

AMD is a progressive condition that can lead to vision loss and blindness. Currently there is no treatment available for early AMD.

This trial aims to demonstrate the ability of a novel laser treatment to slow or partially reverse the progression of AMD, before vision is lost.

What is nanosecond laser treatment?

The treatment will involve the use of a laser device - known as retinal regeneration or 2RT laser therapy - to deliver a controlled nanosecond dose of laser energy into the eye. The laser has been designed by the South Australian based Ophthalmic company Ellex.

In applying the laser to the affected eye, researchers aim to eliminate the yellow deposits, known as 'drusen' that are present in the retinal tissue of AMD patients. It's hoped the elimination of drusen from the retina will reverse the degenerative processes caused by AMD.

How will the change in vision be monitored?

A diagnostic tool will establish the degree of impairment of the retina of the 'study' eye, compared to the patient's untreated eye and detect any improvement with treatment.

Who can participate in the trial?

Fifty patients with early yet high risk AMD will be recruited to participate in the trial. Participants will be drawn from Victorian ophthalmology clinics. Interested patients should contact their ophthalmologist.

What can trial participants expect?

The duration of the study will be 24 months.

Only one eye will receive the treatment. The other eye will remain untreated to provide a basis of comparison to determine the effects of the treatment.

Participants will undergo a retinal scan and a series of eyes examinations prior to treatment. They will also be asked to provide a blood and urine sample to analyse their genes and any AMD markers that may be present.

Participants will receive one laser treatment. The treatment is painless and takes approximately ten minutes. Four follow up examinations will be conducted over the twelve months following the laser treatment to assess its effectiveness.

What is AMD?

AMD is a degenerative condition affecting the central area of the retina called the macula. The macula is a small area at the back of the eye which is responsible for fine and reading vision.

There are two forms of AMD, known as 'wet' and 'dry'. Dry AMD, the more common of the two, is characterised by gradual loss of vision. 'Wet' AMD can lead to rapid and severe vision loss.

AMD is the leading cause of vision loss in Australia. Fifteen per cent of people over 50, or half a million Australians, live with early AMD. The prevalence of this disease increases exponentially with each decade of life and almost a quarter of people over 90 are vision impaired as a result of AMD.

Who is CERA collaborating with on this project?

The trial is being conducted by CERA researchers in partnership with Ellex Research & Development Pty Ltd and the University of Melbourne. The study will be conducted at the Royal Victorian Eye and Ear Hospital in Melbourne.

How is the trial being funded?

The Victorian Government recently awarded CERA \$0.54 million under Victoria's Science Agenda Investment Fund to conduct the trial.

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