

# Fact sheet: Nanosecond laser treatment



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The Centre for Eye Research Australia is conducting a clinical trial of a new laser treatment for age-related macular degeneration (AMD). The interim 12-month clinical trial results were recently announced and researchers aim to expand the study to a multi-centre randomised control trial in the near future.

## **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.

## **What are results of the pilot study?**

The interim 12-month results from the trial of 24 high-risk patients with early AMD have shown that the laser can improve the function of a patient's retina.

After 12 months, around two-thirds of patients experienced sustained improvement in their visual function in the treated eye, with the majority of patients also noting an improvement in their untreated eye.

A patient's visual function typically improved in the area of the eye that had the most damage. It's this damage that typically leads to complications of AMD and subsequently, severe vision loss.

In addition, the treatment appears to be safe, with research showing no evidence of laser damage to photoreceptor cells.

## **Who can participate in the multi-centre randomised control trial?**

Patients with early yet high risk AMD in both eyes will be recruited to participate in the trial. Participants will be recruited from Victorian ophthalmology clinics. Interested patients should contact their ophthalmologist for a referral. Patients will be contacted prior to the beginning of the trial. Referrals can be addressed to:

Kate Brassington  
Centre for Eye Research Australia  
Royal Victorian Eye and Ear Hospital  
Level 1/ 32 Gisborne Street  
East Melbourne 3002

**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.

**What can trial participants expect?**

Only patients with early AMD who have not experienced vision loss will be recruited to this trial. Eligibility criteria for the multi-centre randomised control trial are yet to be determined. More information can be found on the CERA website or by phoning (03) 9929 8360.

**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 and the University of Melbourne. The study will be conducted at the Royal Victorian Eye and Ear Hospital.

**How is the trial being funded?**

The two-year pilot study was funded by the Victorian Government under Victoria's Science Agenda Investment Fund.

**General enquires:**

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