

A new treatment for age-related macular degeneration: the intraocular microtelescope

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Understanding the retina

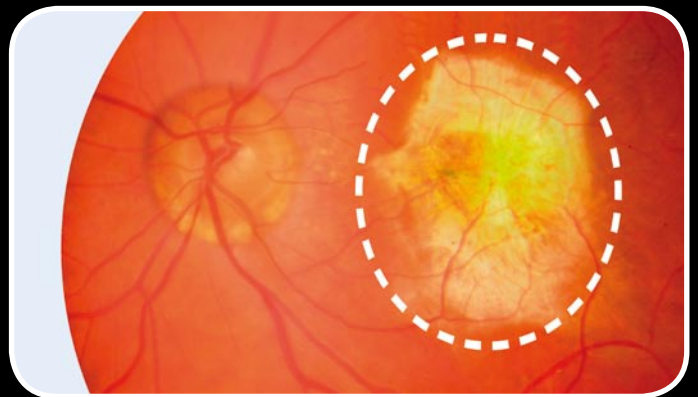
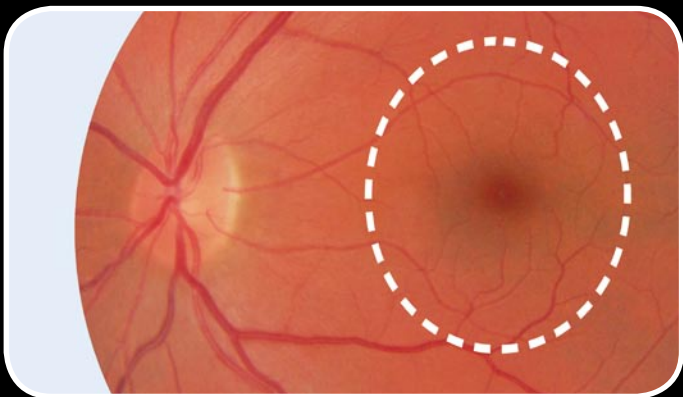
The retina is a remarkable layer at the back of the eye, containing many specialised cells called photoreceptors that respond to light. The largest number of photoreceptors are located at the centre of the retina in a zone called the macula. The macula provides 'central' or 'straight ahead' vision such as reading and seeing faces. The retina outside the macula is for 'peripheral vision'.

Understanding age-related macular degeneration

A healthy retina is required for normal eyesight. Unfortunately there are many retina diseases. The most common is age-related macular degeneration (AMD), a disorder with two forms – 'wet' and 'dry', that damage central vision. The cause of AMD is not entirely known but is probably a mix of unlucky genes, smoking and exposure to ultraviolet light from sunshine.

Wet AMD is sudden and follows the abnormal growth of blood vessels into the macula. It is now treatable by injections with Lucentis, an agent that suppresses the blood vessels, although there may still be some vision loss.

Dry AMD results from wear and tear to the cells of the macula. Although gradual, vision loss may be severe. Dietary supplements such as Lutein may slow its progress but, until now, damage already done by dry AMD has not been treatable.

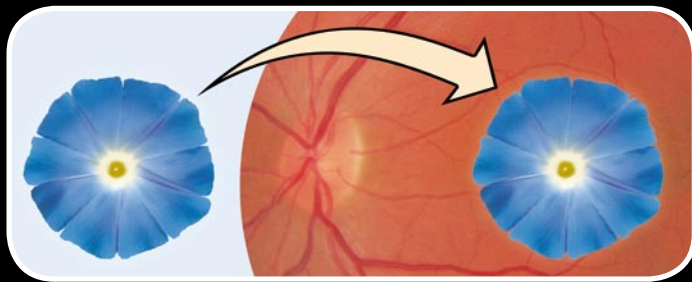


*Photograph of normal retina (left) and abnormal retina with AMD (right)
Note damage (discoloured area) to the macula on the right*

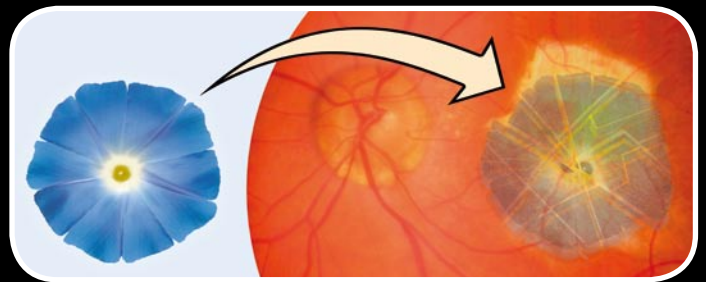
Treating age-related macular degeneration with the intraocular microtelescope

Happily a new device now offers hope to the many patients whose eyesight has been affected by AMD – an intraocular microtelescope invented by the engineer and ophthalmologist Dr Isaac Lipshitz MD.

The intraocular microtelescope is exceptional technology – only 6.5mm wide and 2.2mm thick and embedded with miniaturised mirrors capable of magnifying up to 2.5 times. It is implanted into the eye, replacing the natural lens, by a procedure similar to cataract surgery and works by enlarging objects so they are focused on areas of the macula not damaged by AMD.



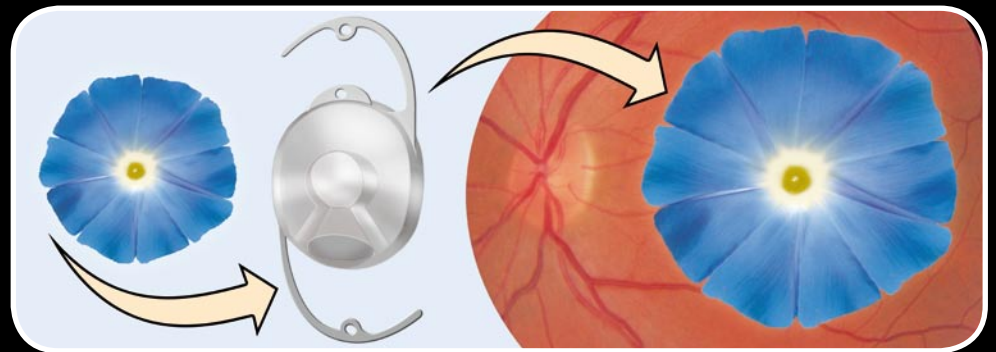
Flower seen by normal retina



Flower seen by retina with AMD is degraded



The intraocular microtelescope



Flower seen by retina with AMD is magnified and improved by the intraocular microtelescope

(images are simulated)

Are you suitable for treatment?

A detailed assessment is performed in my clinic. Your vision will be measured and the potential for improvement estimated by using an external telescope. Sophisticated tests of the shape of your eyes and the extent of the damage from AMD will be performed. I will then examine you and advise whether your eyesight may be improved by this technology.

How much will the intraocular microtelescope help you?

A study in the medical Journal of Cataract and Refractive Surgery¹ reported that all patients implanted with this device benefited, some greatly. However this is new technology and every eye is unique in the extent of the damage done by AMD. For these reasons it is not possible to guarantee improvement after surgery.

¹Mirror telescopic intraocular lens for age-related macular degeneration. Design and preliminary clinical results of the Lipshitz macular implant. Agarwal et al. Journal of Cataract and Refract Surgery 2008; 34:87-94.

Further information on the intraocular microtelescope is available from my website: www.eyesite.org or by telephone: 020 8951 1951.



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