

Implantable Miniature Telescope

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VisionCare Ophthalmic Technologies Inc. in California is developing the Implantable Miniature Telescope. The telescope is currently in Phase II/III of clinical trials has been created to restore central vision loss due to age-related macular degeneration (AMD).

AMD is a condition in which the macula (or central retina) is damaged by the hardening of arteries. These arteries normally supply oxygen and other required nutrients to the retina to function. As a result of these arteries hardening, central vision deteriorates.

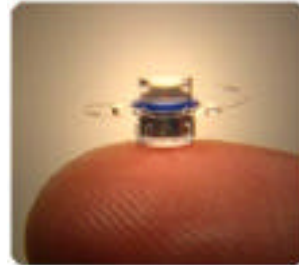
There are two types of AMD: wet and dry. Wet AMD is caused when the body tries to replenish the supply of arteries in the retina by creating new ones. This is the body's natural reaction to replenish the blood supply. As a result, less stable arteries are created. These new arteries frequently leak causing hemorrhaging, swelling, and scar tissue, eventually leading to central vision loss. 10% of patients have wet AMD. Dry AMD is less severe, but just as harmful. In dry AMD the light-sensitive cells of the macula break down, blurring central vision.



The IMT is a prosthetic device that is implanted in the eye, directly behind the iris. The telescope can magnify to 2.2X or 3.0X depending on the model. When light passes into the eye, the telescope focuses the light on a larger area of the retina (as opposed to the damaged macula), allowing central vision to be restored. One eye has the IMT implanted, and the other is kept the same for peripheral vision.

Phase I of the clinical trials was completed with positive and reassuring results. 77% of patients gained two or more lines and 62% gained three or more lines on a standard eye chart. The conclusion of Phase I presented the

company with the need to develop a telescope with a wider field of view.



Phase II/III of the clinical trials included 218 patients at 28 hospitals across the nation. The trial was completed on October 18, 2005. VisionCare Inc. has filed for Premarket Approval with the FDA. The results of Phase II/III have not yet been released.

Cost for the patient is not known at this time. VisionCare Inc. does say that they hope to have insurance coverage for the IMT for patients. The company will not disclose to the public how much the device will cost to manufacture.

Advantages of the IMT:

1. Enhanced central, while maintaining peripheral vision
2. Patient comfort and cosmetic advantages
3. No external bulky telescope
4. No need to focus in particular direction, eye focuses directly through telescope

Disadvantages of the IMT:

1. Ability to adapt to functioning with a magnification difference
2. Ability to adapt to depth perception
3. Reduced peripheral vision in implanted eye

Sources:

<http://www.visioncareinc.net/>

<http://www.amd.org/>

http://www.nei.nih.gov/health/maculardegen/arm_d_facts.asp

<http://www.stlukeseye.com/Conditions/MacularDegeneration.asp>

<http://www.eyelasercenter.com/Consultation/Newsweek-IMT-Kershner.htm>

VisionCare Inc. spokesperson. Phone Interview. 10/14/05.