

## Implantable Miniature Telescope for Age-Related Macular Degeneration

Improving reading abilities is often the primary goal of patients seeking low vision rehabilitation. These needs are often met with high powered reading glasses, hand held magnifiers, enlarged print, or proper task lighting; strategies that are familiar to most. However, many patients with vision loss are also seeking options to enhance their distance vision. Distance tasks tend to be more social in nature, such as recognizing faces, playing cards, watching television, reading signs, and various recreational or vocational needs. When a glasses prescription alone does not meet distance needs, telescopic aids can help meet the patients' needs and ultimately improve quality of life. Many patients achieve this through hand held or spectacle mounted telescopes. For those suffering with end stage age-related macular degeneration (ARMD) however, an implantable miniature telescope (IMT, VisionCare Ophthalmic Technologies) can be a viable option.

The IMT was first approved by the FDA in July 2010 as an alternative implant during cataract surgery. It is currently approved for patients 65 or older with end-stage ARMD consisting of bilateral geographical atrophy or disciform scarring with best corrected visual acuities of 20/160-20/800 in each eye. The telescopic device is 3.6mm in diameter and implanted monocularly in the capsular bag after removal of the

natural lens. As opposed to extraocular telescopic options, the IMT allows the patient to continue with their natural eye movements when viewing objects. A low vision optometrist and occupational therapist perform thorough training with potential patients prior to implantation to ensure appropriate candidacy. The patient also undergoes 3-6 months of training with a low vision occupational therapist after implantation to assist with adaptation as the patient learns to use their new vision. Although patients may still need low vision devices for some tasks, lower powered options are often all that they require.

Currently, the IMT is the only surgical option for end-stage ARMD and it is eligible under Medicare. Various studies have proven the efficacy and safety of the IMT under current FDA guidelines and patients who have undergone implantation have shown significant gains in quality of life. Results from a quality of life study demonstrate that patients with the IMT are more independent, not as frustrated with their visual acuity, and less limited in their daily tasks. The FDA recently approved a clinical study to evaluate the safety and efficacy of the IMT in patients who have previously undergone cataract surgery (i.e. pseudophakic). Patients who participate in the study will have their current intraocular lens removed and replaced with the

telescopic implant; they will then be followed for up to three years. Participants will undergo the same pre and post-op training with a low vision optometrist and low vision occupational therapist to ensure adaptability to the device.

The Kentucky Lions Eye Center has a medical team comprised of a retinal specialist, cornea specialist, low vision optometrist, and low vision occupational therapist who specialize in providing comprehensive care for IMT patients both pre- and post-operatively. A low vision examination in the vision rehabilitation clinic can determine if a patient is a proper candidate for the IMT or for participation in the clinical trial. This examination also provides patients with an opportunity to experience what their vision would be like with an external telescope simulator. As with any low vision aid, recommendations are based primarily on patient goals as well as visual acuities, contrast and/or visual field loss, and ultimately visual performance and ability to adapt to the device. *By: Andrea Smith, OD, FAAO*



Image of Implantable Miniature Telescope

*To schedule an appointment at the Kentucky Lions Eye Center, please call 502-588-0588.*

## Office Locations:

**Kentucky Lions Eye Center**  
University of Louisville  
301 E. Muhammad Ali Blvd.  
Louisville, KY 40202  
Referring Physician Line  
(502) 588-0588

**The Springs Medical Center**  
6400 Dutchmans Parkway, Suite 310  
Louisville, KY 40205  
Referring Physician Line  
(502) 588-0588

**Old Brownsboro Crossing  
Medical Plaza II  
(Pediatric Only)**  
9880 Angies Way, Suite 330  
Louisville, KY 40241  
Referring Physician Line  
(502) 588-0588

## Meet the Doctors



**HOSSIEN ASGHARI, MD**

*Cornea & Refractive  
Surgery*



**CHRISTOPHER  
COMPTON, MD**

*Oculofacial Plastic  
& Orbital Surgery*



**THONG PHAM, MD**

*Neuro-Ophthalmology*



**DOUGLAS SIGFERD,  
MD**

*Retina & Vitreous*



**CHARLES BARR, MD**

*Retina & Vitreous*



**HENRY KAPLAN,  
MD, FACS**

*Retina, Vitreous  
and Uveitis*



**APARNA  
RAMASUBRAMANIAN,  
MD**

*Pediatrics / Ocular  
Oncology*



**ANDREA SMITH, OD**

*Low Vision / Optometry*



**RAHUL BHOLA, MD**

*Pediatric Ophthalmology  
& Adult Strabismus*



**JUDITH MOHAY, MD**

*Glaucoma/Cataract*



**HARPAL SANDHU, MD**

*Retina & Vitreous*



**JOERN SOLTAU, MD**

*Glaucoma/Cataract*



**JEREMY CLARK, MD**

*Oculofacial Plastic  
& Orbital Surgery*



**WILLIAM NUNERY,  
MD, FACS**

*Oculofacial Plastic  
& Orbital Surgery*



**PATRICK SCOTT,  
OD, PhD**

*Optometry*



**HARRY  
STEPHENSON, MD**

*Comprehensive  
Ophthalmology*