

## Age-Related Macular Degeneration Awareness

February is age-related macular degeneration (AMD) awareness month. AMD is a leading cause of central vision loss in the 50+ age group. It accounts for 14 percent of new legal blindness, with 16,000 cases reported annually in the United States. Currently, 34% of the US population is over the age of 50. As the Baby Boomer generation continues to age and this percentage continues to rise, we will continue to see a drastic rise in age-related diseases, with the most notable eye disease being AMD. AMD has a dramatic impact on the elderly in terms of daily living and overall quality of life. Not only are visual impairments associated with difficulty with activities of daily living, but also with increased risk of depression and accidental injury

There are two types of AMD: the dry form and the wet form. The vast majority of patients with AMD have the atrophic form (dry form), commonly presenting with drusen and retinal pigment epithelial (RPE) atrophic changes of the central macula. Although the atrophic form of the disease is much more prevalent, the largest numbers of patients that develop severe visual loss have the exudative form (wet form) of AMD. The transition from dry to wet AMD is marked by neovascular changes in the retina.

The identification of modifiable risk factors and the development of future preventive treatments are crucial for dry AMD because there is currently no available treatment. The current therapy of dry AMD includes vitamin supplementation to reduce

progression, patient education with overall risk assessment, avoidance of cigarette smoking, regular follow-up examinations, and home monitoring by the patient for new metamorphopsia or scotoma with the aid of an Amsler grid. Many studies have determined that smoking significantly increases the risk of AMD. Smoking is the largest modifiable risk factor for age-related macular degeneration.

The Age-Related Eye Disease Study (AREDS) first showed that increased intake of antioxidants and zinc lowered the risk for disease progression by 25% in patients with intermediate or advanced AMD. Regarding adverse effects, subsequent research from AREDS found an increased incidence of genitourinary disorders associated with high-dose zinc supplementation. AREDS 2 with modified the dose of Zinc showed that taking the following nutritional supplements every day might help to slow the disease in some people with early to mid-stage AMD. Vitamin C (500 mg), Vitamin E (400 IU), Lutein (10 mg), Zeaxanthin (2 mg), Zinc (80 mg), Copper (2 mg).

Over the past 15 years, anti-vascular endothelial growth factor (VEGF) agents have profoundly transformed the management of AMD and remarkable improvements in vision preservation and quality of life for millions of patients in the United States. Anti-VEGF intravitreal injection is the first-line treatment of wet AMD because these agents have been shown to improve visual and anatomic outcomes over other therapies. Currently

there are four anti-VEGF agents clinically approved by the FDA. In a 2018 survey among the American Society for Retinal Specialists, the first-line agent of US retinal specialists for wet AMD was bevacizumab (70.2%), followed by aflibercept (16.4%), and ranibizumab (12.8%). The FDA approved brolicizumab recently as a new treatment option. Retinal specialists need access to different anti-VEGF agents to individualize therapy. Although they may be clinically equivalent in large-scale clinical trials, patients may respond differently to specific anti-VEGF agents.

In summary, visual impairment from AMD is increasing in the United States. It is important to discern general vision loss from AMD to ensure proper follow-up. Additionally, early detection of dry AMD allows for preventative measures to be taken, such as dietary and lifestyle changes. While there is a genetic component to the progression of AMD, many risk factors are modifiable. Anti-VEGF intravitreal injections are an effective treatment for wet AMD. Substantial research efforts continue in the identification and evaluation of new therapeutic modalities for both forms of this disease.

By: *Wei Wang, MD, PhD*

*Madison Kerley, MS III*

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

### Providing the Highest Level of Care for your Patients

*Eye Specialists of Louisville/University of Louisville Ophthalmology has been a center of excellence for clinical eye care, treating a broad range of eye disorders from pediatric eye diseases to age-related macular degeneration. As the largest multi-specialty team of ophthalmologists in Louisville, we are at the forefront of leading-edge treatments and research in subspecialties including Retina, Uveitis, Glaucoma, Oculoplastics, Pediatrics, Cornea, Neuro-Ophthalmology and Low Vision.*

## 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*