

UNIVERSITY OF LOUISVILLE®

July 26, 2017

Betty Coffman, 502-852-4573, 502-475-5727, betty.coffman@louisville.edu

Follow the UofL Health Sciences Center



Just use the glasses!

UofL physicians explain why you need certified eclipse glasses when viewing the eclipse, and which glasses are safe

LOUISVILLE, Ky. – It may be tempting to take a peek at the August 21 eclipse without eye protection. After all, we are told it's a once-in-a-lifetime event. However, a University of Louisville ophthalmologist says that peek could leave you with a not-so-pleasant, permanent reminder of the event.

"You may have heard that you can do a lot of damage to your eyes when viewing an eclipse, and it's true," said Mark Mugavin, M.D., M.P.H., of the UofL Department of Ophthalmology and Visual Sciences. "During an eclipse, our normal reflexes that protect us from sun damage, such as blinking and pupil constriction, are more relaxed because the sun's light intensity is significantly reduced."

During the August 21 total eclipse, the moon will directly block all or part of the sun for up to three hours and will be visible across the United States. The "Path of Totality," in which the entire sun will be covered, cuts across the southwest corner of Kentucky, but does not include the Louisville area.

"At no point should solar filter glasses be removed when you are looking at the eclipse in Louisville," said Patrick A. Scott O.D., Ph.D., assistant professor in the UofL Department of Ophthalmology & Visual Sciences. "Although the sun may appear completely blocked, observers in Louisville will still be exposed to the sun's harmful rays, which can cause damage to the eyelids, ocular surface and internal structures of the eye."

Looking directly into the sun causes a condition known as "solar retinopathy." The increased UV light exposure creates toxic free radicals that damage the photoreceptors and specialized pigment of the eye. This damage can leave a person with a mild to moderate reduction in vision, as well as central blind spots. Those most at risk for solar retinopathy are younger people, those with and intraocular lens after cataract surgery, and patients who are on photosensitive drugs such as tetracycline and amiodarone. Even though the Louisville area will see approximately 96 percent of the sun blocked, the remaining 4 percent can cause damage.

"The UofL Department of Ophthalmology sees approximately 10 cases a year of patients with solar retinopathy from high intensity laser pointers or high intensity sunlight exposure, such as viewing an eclipse," Mugavin said, adding that he expects more cases this summer from people viewing the eclipse without proper eye protection.

There is no treatment available for solar retinopathy so the best strategy is to avoid it.

To safely view the eclipse, use glasses with special purpose solar filters. The National Aeronautics and Space Administration (NASA) [website](#) reviews the various “eclipse glasses” that are available. Approved glasses should meet the ISO 12312-2 international standard *and* be manufactured by a U.S. manufacturer.

###

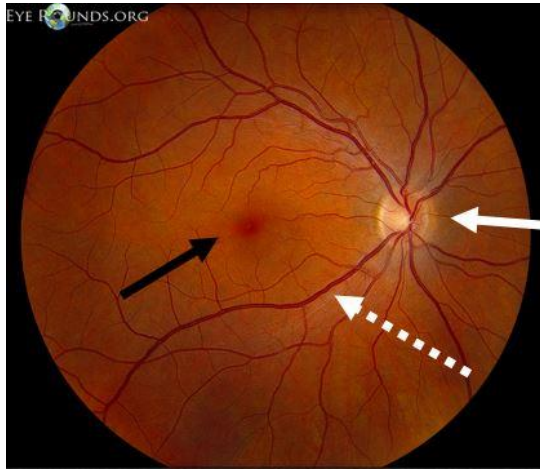


Photo showing normal right eye with normal optic nerve (solid white), macula (black), and vessels (dash). Photo credit: Dr. Jesse Vislisel MD www.webeye.opth.uowa.edu

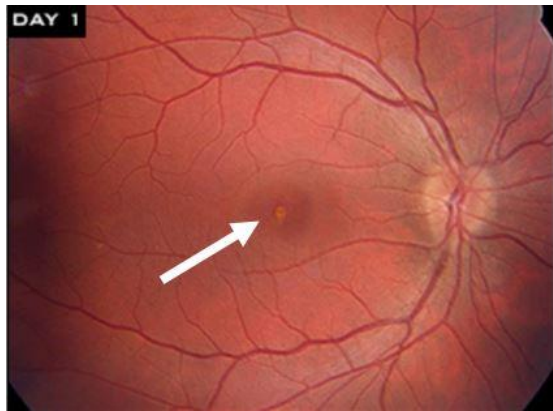
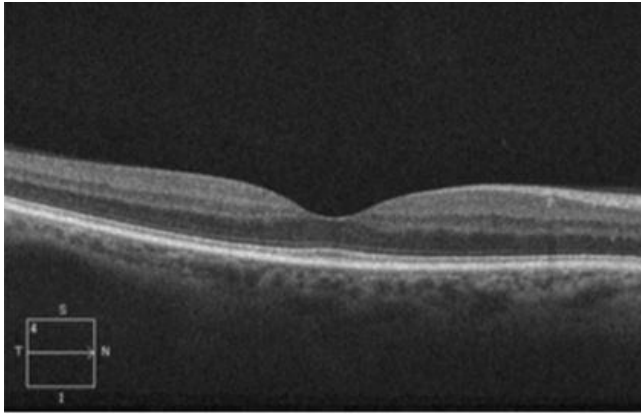
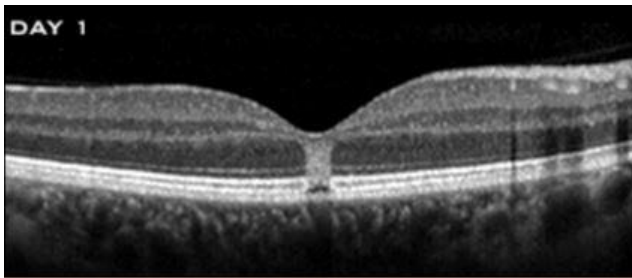


Photo showing solar photo-toxicity in the central retina, the yellow-white pigment irregularity highlighted by the arrow. Image courtesy: Couciero et. al Solar Retinopathy American Academy of Ophthalmology <https://www.aaopt.org/eyenet/article/blink-mystery-image-10>



Ocular Coherence Tomography (OCT) scan of eye showing normal anatomy of the photoreceptor segments of retina. Photo credit: Dr. E. Mitchel Opremcak www.theretinagroup.com



OCT scan showing focal disruption of the outer layers of the retina, seen as the rectangular area of atrophy in the center of the retina. Image courtesy: Couciero et al Solar Retinopathy American Academy of Ophthalmology <https://www.aao.org/eyenet/article/blink-mystery-image-10>