

Positive and Negative Dysphotopsia

BY JAMES A. DAVISON, MD; SAMUEL MASKET, MD; KEVIN M. MILLER, MD;
AND THOMAS A. OETTING, MS, MD

CASE PRESENTATION

A 75-year-old monocular man developed a functionally significant cataract in his left eye. He had no significant ocular conditions in that eye but had lost his right eye to trauma. He was taking tamsulosin for benign prostatic hypertrophy and had diabetes mellitus with no retinopathy and well-controlled glucose.

The patient underwent an uncomplicated cataract surgery and achieved a return of visual acuity. As he was rolled out of the OR, however, he complained of positive and negative dysphotopsia. He reported that lights flickered and that he saw a crescent-shaped shadow to the side. The patient found these symptoms deeply troubling and continued to notice them without improvement a month later. The anterior capsulotomy completely covered the edge of a centered AcrySof IQ IOL (model SN60WF; Alcon Laboratories, Inc.).

I offered the patient an IOL exchange and wrote to three experts on this subject for their advice on the best lens and position (sulcus vs bag) to minimize the likelihood of continued dysphotopsia.^{1,2} I was honored to hear back from all of them. I had proposed implanting the three-piece AcrySof MA50 lens with its optic placed in the sulcus, but all three surgeons recommended against using the IOL in this situation.

—Case prepared by Thomas A. Oetting, MS, MD.

JAMES A. DAVISON, MD

I would probably use the Elastimide silicone IOL, which has a lower index of refraction (AQ2010V; STAAR Surgical Company). Its optic has a 6.3-mm diameter and rounded edges. The overall length of the lens is 13.5 mm, and its polyamide haptics feature 10° angulation. I would perform the reverse optic capture advocated by Dr. Masket.² Posterior capsular opacification would develop rapidly, but this lens should be the best option for addressing both dysphotopsias.

SAMUEL MASKET, MD

Given both the negative and positive dysphotopsia, I would recommend using a three-piece Collamer Aspheric IOL (model CQ2015A; STAAR Surgical Company), either placed in the sulcus or using reverse optic capture, depending on the size, shape, and position of the anterior capsulotomy. When placing the lens in the sulcus, I advocate sewing the lens loops to

the iris to prevent movement and decentration. An alternative IOL would be the AQ2010V lens. I tend to avoid acrylic IOLs with a high index of refraction in cases such as this one.

KEVIN M. MILLER, MD

My preference would be either an Afinity Collamer Aspheric IOL (model CC4204A; STAAR Surgical Company), with the plate haptics oriented at the 3- and 9-o'clock positions, or an Elastimide silicone IOL (model AQ2010V). The MA50 has a square edge, which could leave the patient with dysphotopsia.

WHAT I DID: THOMAS A. OETTING, MS, MD

Using dispersive viscodissection, I separated the existing single-piece acrylic IOL from the capsular bag (Figure 1). The pupil came down due to the patient's use of tamsulosin, so I placed a 7-mm Malyugin Ring (MicroSurgical Technology; Figure 2). Viscodissection and rotation with a



Figure 1. The surgeon injects Viscoat (Alcon Laboratories, Inc.) under the capsule to free the IOL.



Figure 2. Placement of the 7-mm Malyugin Ring.



Figure 3. The IOL is easily freed with Viscoat and a Kuglen hook.



Figure 4. The surgeon cuts the IOL in half with the Osher IOL Cutter (Crestpoint Management Ltd.) and the Duet forceps (MicroSurgical Technology).

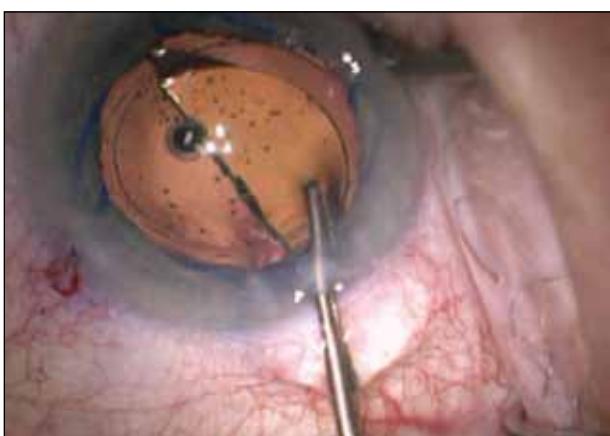


Figure 5. The two halves of the IOL are removed.



Figure 6. The AQ2010V is folded into the cartridge.

hook easily and completely freed the IOL (Figure 3). I cut the optic in half (Figure 4) and removed it through the existing wound (Figure 5).

I placed the AQ2010V IOL right side up in the Unfolder Silver Delivery System (Abbott Medical

Optics Inc; Figure 6). I did not rotate the lens enough as it exited the cartridge, and the IOL came out quickly and upside down (Figure 7). I used a hook and a Drysdale lens manipulator to flip the IOL right side up (Figure 8). The haptics were placed into the capsular



Figure 7. Upon delivery, the new IOL flips out quickly and upside down.

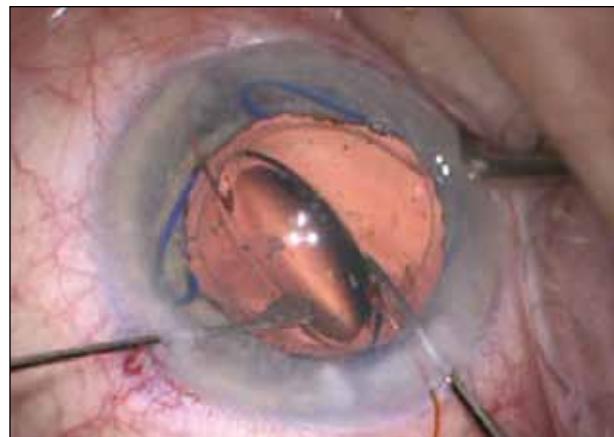


Figure 8. The surgeon flips over the IOL.

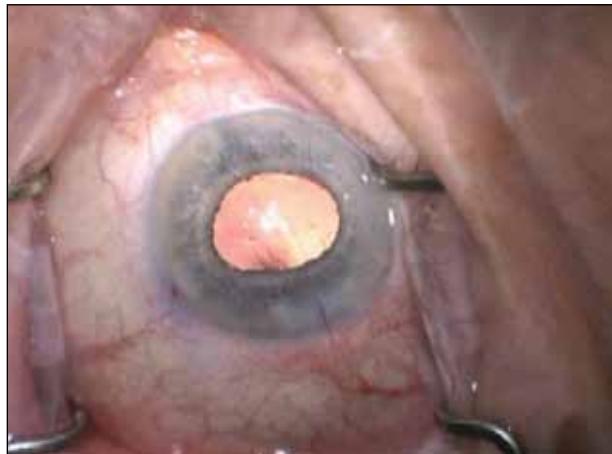


Figure 9. At the conclusion of the case, the IOL is well positioned, and the Malyugin Ring has been removed.

bag, and the optic was prolapsed anterior to the capsulotomy in the area of the sulcus. I secured the wound with a single 10–0 nylon suture (Figure 9).

Andy Fitzmorris, my representative for the STAAR IOL, gave me some tips on how to keep this large silicone lens upright during implantation. Mr. Fitzmorris and I eventually settled on using Bausch + Lomb's Mport SI injector as the best method by which to insert the AQ2010V IOL right side up in a controlled fashion. I have implanted this IOL on several occasions now with the Mport SI injector and have not had the IOL flip out of control.

Immediately after the IOL exchange, the patient noted that his symptoms of both positive and negative dysphotopsia were gone. ■

Section Editor Thomas A. Oetting, MS, MD, is a clinical professor at the University of Iowa



in Iowa City. He acknowledged no financial interest in the products or companies he mentioned. Dr. Oetting may be reached at (319) 384-9958; thomas-oetting@uiowa.edu.

Section Editor Tal Raviv, MD, is an attending cornea and refractive surgeon at the New York Eye and Ear Infirmary and an assistant professor of ophthalmology at New York Medical College in Valhalla.

Section Editor Audrey R. Talley Rostov, MD, is in private practice with Northwest Eye Surgeons, PC, in Seattle.

James A. Davison, MD, is the board chairman at Wolfe Eye Clinic in Marshalltown, Iowa. He is a paid consultant to Alcon Laboratories, Inc. Dr. Davison may be reached at jdavison@wolfeclinic.com.



Samuel Maskit, MD, is a clinical professor at the David Geffen School of Medicine, Jules Stein Eye Institute, UCLA, and is in private practice in Los Angeles. He acknowledged no financial interest in the products or company he mentioned. Dr. Maskit may be reached at (310) 229-1220; avcmaskit@aol.com.



Kevin M. Miller, MD, is the Kolokotrones professor of clinical ophthalmology, David Geffen School of Medicine, Jules Stein Eye Institute, at UCLA. He acknowledged no financial interest in the products or company he mentioned. Dr. Miller may be reached at (310) 206-9951; kmiller@ucla.edu.



1. Maskit S, Fram N. Etiology of negative dysphotopsia. *J Cataract Refract Surg.* 2013;39(3):485-486.

2. Maskit S, Fram NR. Pseudophakic negative dysphotopsia: surgical management and new theory of etiology. *J Cataract Refract Surg.* 2011;37(7):1199-1207.

3. Davison JA. Positive and negative dysphotopsia in patients with acrylic intraocular lenses. *J Cataract Refract Surg.* 2000;26(9):1346-1355.