

Popular Videos in Detail

Surgeons provide a step-by-step analysis of some of the most watched videos on Eyetube.net

BY ARTHUR CUMMINGS, FRCS(Ed); HOWARD V. GIMBEL, MD; JASON JONES, MD; AND STEVEN L. MASKIN, MD

ARTHUR CUMMINGS, FRCS(Ed)

In my video, I perform two LASIK enhancements with the Kamra corneal inlay (AcuFocus, Inc.; not available in the United States) in situ. In my experience, the inlay works best when (1) the residual refraction is closest to -0.75 D sphere, (2) the implant is well centered, and (3) the corneal bed on which it lies is smooth. If not as good as expected, the inlay's performance can often be improved with an enhancement. As I demonstrate in the video, if the inlay's position is excellent and I only want to perform a refractive adjustment, I maintain the implant's position by having it adhere to the flap being reflected (Figure 1). Once the enhancement is complete, I reposition the flap to ensure that the position of the inlay has been maintained. If, on the other hand, I need to move the inlay, I keep it on the corneal bed in order to see exactly where it is and where

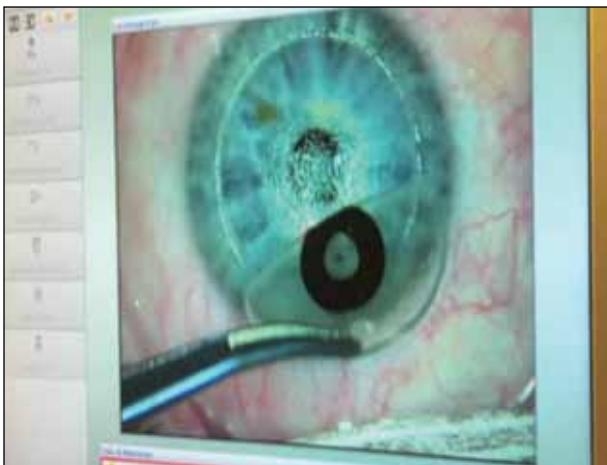


Figure 1. After grasping its inferior edge with a forceps, Mr. Cummings lifts back the flap to encourage its adherence to the corneal inlay.

it needs to go. If a patient requires both a refractive enhancement and repositioning of the inlay, then the implant has to be physically detached from both stromal surfaces. This video shows how, by maneuvering the flap slightly differently for each procedure, the Kamra inlay can be kept attached to the stromal surface of choice.

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HOWARD V. GIMBEL, MD

I present my technique for safely and efficiently creating an anterior continuous curvilinear capsulorhexis (CCC) and posterior CCC (PCCC) for cataract removal and/or optic capture. My technique varies according to the age of the patient, the type of cataract, capsular elasticity or fibrosis, and the integrity of the zonules. For routine adult cataract surgery, I use a dispersive viscoelastic and capsular forceps to start and complete the CCC. In children, young people, and patients with intumescent lenses or compromised zonular integrity, I find that a cohesive viscoelastic increases the likelihood of success and that a sharp instrument is necessary to start the capsular tear (Figure 2).



Not only is the integrity of the CCC and PCCC critical to the success of the procedure, but the size of the capsular opening must always be smaller than the optic's diameter to allow for anterior CCC optic capture in the event of a posterior capsular tear, for purposeful PCCC in children if posterior optic capture is planned, and in the event that a patient is incapable of sitting



Figure 2. Dr. Gimbel uses a sharp cystotome to puncture the capsule in the eyes of children and young adults.

for an Nd:YAG capsulotomy. I also demonstrate how to obtain a posterior opening in a capsular membrane to center and fixate a decentered three-piece sulcus IOL or to fixate a secondary sulcus IOL using membrane optic capture.

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JASON JONES, MD

I present a case of laser cataract surgery with the Catalys Precision Laser System (OptiMedica Corporation). The patient is in his 50s, has a dense white cataract in his left eye, and has a visual acuity of count fingers at 5 feet. As shown in the video, the Catalys' liquid optics interface docks smoothly and acquires optical coherence tomography (OCT) images with the treatment plan and safety zones mapped out. Due to slight movement of the eye during data acquisition, I rescan the eye and confirm the axial and sagittal treatment and safety zones. Impressively, the OCT device acquires clear images of the posterior capsule even though the patient's white cataract is fairly opaque. I reconfirm the pupillary fit prior to treatment with the laser.

The 5-mm capsulotomy is centered based on the



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Figure 3. The diffractive rings of the IOL are aligned concentric to the keratoscope reflection from the cornea. Note the excellent centration of the capsulotomy.

“scanned capsule” option, meaning the laser centers the ablation on the calculated capsular equator, which is extrapolated from anterior and posterior curvatures acquired via OCT. Other available automated options include dilated pupillary or limbal centration or manual placement. I complete the capsulotomy in just over 4 seconds. Next, the lens is softened with vertical cuts spaced 350 μm apart in a grid pattern. With the Catalys, lens ablation is programmed with softening and the number of chops desired and maximized automatically for pupillary size. I find that the system's templates facilitate the ease of use of all parameters, and each element can be individualized by the surgeon on the fly.

In the OR, I place corneal relaxing incisions and fashion the main and paracentesis wounds. With a Utrata forceps, I remove the capsulotomy after I confirm it is free from the peripheral bag. Using the phaco tip and vertical chopper, I divide the lens. During dissection, I observe refractile intralenticular material, which proves to be an interlamellar gas bubble that gave me the impression of a possible metallic foreign body (a concern in this younger man with a large, asymmetrical cataract). Cortical aspiration proceeds routinely, and I position a single-piece diffractive multifocal IOL on the visual axis using a Mastel Illuminated Surgical Keratoscope (Mastel Precision) to align the diffractive rings concentric to the keratoscope's reflection from the cornea (Figure 3).

At the conclusion of the case, I hydrate the incisions, check the wounds, and adjust the IOP to approximate physiologic pressure. Postoperatively, the patient has excellent near and distance vision without glasses. He underwent laser cataract surgery on his right eye as

well. The second procedure was uneventful, and his new level of vision has given him a new lease on life.

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STEVEN L. MASKIN, MD

My video demonstrates how to unblock an obstructed meibomian gland with meibomian gland probing (MGP) using nonsharp probes 76 µm in diameter with lengths of 1, 2, 4, and 6 mm (Figure 4). Periglandular fibrosis is a significant cause of obstruction for at least 66% of glands.¹ Ring fibroses and a blockage of flow may occur at any foci along the length of the gland. Diagnostic expression showing meibum at the orifice, therefore, is not evidence of a fully patent gland but only demonstrates that at least one acinus is in communication with the orifice. In my experience, MGP is the only treatment that can give positive physical proof of a fully patent gland outflow track.

First, I instill a drop of topical anesthetic solution in the conjunctival sac and then place a bandage contact lens. Next, I apply a generous amount of jojoba ophthalmic anesthetic ointment (Leiter's Compounding Pharmacy) on the lower margin of the eyelid using a sterile cotton-tipped applicator. I administer another drop of topical anesthesia after the patient's eye has been closed for 10 to 15 minutes. I move the tip of the 1-mm Maskin Meibomian Gland Intraductal Probe (Rhein Medical Inc.) in a dart-like motion to advance through the orifice. To find the proper entry angle, it may be necessary to adjust the probe's location and angle. If the patient has



Figure 4. Release of sequestered meibum from behind a periglandular ring fibrotic obstruction during MGP.

moderate to severe meibomian gland dysfunction, has significant comorbid disease, is being reprobbed, or has a chalazion, I will consider injecting 4 mg/mL of dexamethasone (Decadron; Merck & Co., Inc.) into the ducts through Maskin Meibomian Gland Intraductal Tubes (Rhein Medical Inc.), which are made of stainless steel. Once MGP is complete, I remove the bandage contact lens and irrigate the ointment off the ocular surface and eyelids. Finally, I use the Maskin Meibum Expressor (Rhein Medical Inc.) to safely evacuate the ductal contents. ■

Steven L. Maskin, MD, is the medical director of the Dry Eye and Cornea Treatment Center in Tampa, Florida. He has pending patents on jojoba treatment solutions for meibomian gland dysfunction and on the method and apparatus of MGP. He also has a royalty interest in the Maskin Meibum Expressor. Dr. Maskin may be reached at (813) 875-0000; drmaskin@tampabay.rr.com.



1. Maskin SL, Leppla J. Meibomian gland probing findings suggest fibrotic obstruction is a major cause of obstructive meibomian gland dysfunction (O-MGD). Poster presented at: The ARVO Annual Meeting; May 6, 2012; Fort Lauderdale, FL.

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