GO-TO TECHNIQUES FOR COMPLEX CATARACT CASES



Three surgeons share the maneuvers they rely on to improve control, safety, and efficiency in eyes with soft or dense nuclei, during IOL exchange, and in eyes with intumescent white cataracts.

BY ROSA BRAGA-MELE, MD, MED, FRCSC; UDAY DEVGAN, MD, FACS; AND H. BURKHARD DICK, MD, PHD, FEBOS-CR

Pocket Chop for Soft and Dense Cataracts

ROSA BRAGA-MELE, MD, MED, FRCSC

Many new tools and phaco technologies have made cataract surgery easier to manage, particularly in challenging situations. One technique that works reliably well with newer technologies is pocket chop, which can improve efficiency and safety in eyes with a soft or dense cataract.[1]

The beginning of a central groove, or pocket, is created in the center of the lens. The phaco needle is then embedded in the pocket with no vacuum for soft nuclei or with high vacuum for dense nuclei (Figure 1). A chopper is advanced from the distal edge of the capsulorhexis toward the pocket to create a horizontal chop (Figure 2).

This modified form of horizontal chop can be safer than standard horizontal chop. The pocket creates additional working space, which improves visualization of the nuclear depth, nuclear density, and instrument position. The chopper therefore does not have to be advanced blindly toward the lens equator. Instead, it can penetrate the nucleus more proximally at the visible edge of the distal capsulorhexis.

In eyes with a soft nucleus, the pocket creates a pivot point for the chop without the need for vacuum and therefore with less coring of the nucleus. In eyes with a dense cataract, the technique creates space for the chop to propagate through the center of the nucleus and the posterior plate.

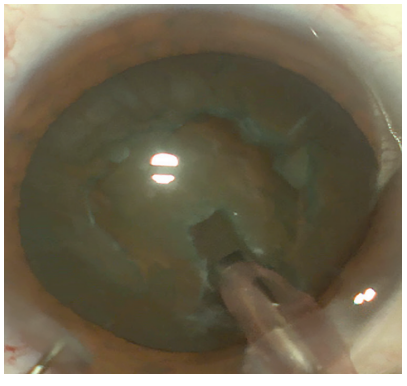

Figure 1. A small pocket is sculpted with the phaco tip to approximately one-third the depth of the nucleus and a length of 1 to 2 mm.

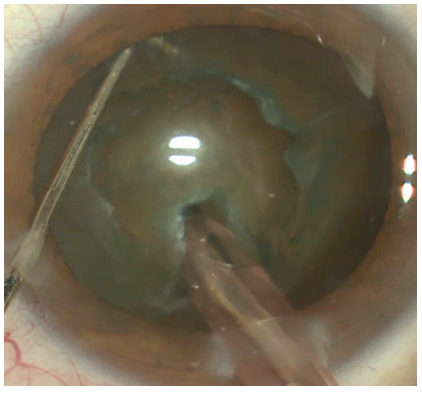

Figure 2. The chopper engages the nucleus and remains visible throughout the chop.

1. Braga-Mele R, Mednick Z. Pocket-chop technique for phacoemulsification. *J Cataract Refract Surg*. 2016;42(10):1531-1532.

The Twist-and-out Technique for IOL Exchange

BY UDAY DEVGAN, MD, FACS

For complex IOL exchange cases, my preferred method is the twist-and-out technique. It allows a foldable IOL to be explanted through a standard phaco incision without enlarging it. No special instruments are required, and the IOL is not cut inside the eye.

The procedure begins with mobilization of the IOL from the capsular bag into the anterior chamber. A dispersive OVD is injected to maintain space and limit trauma during the subsequent maneuvers.

Once the IOL has been positioned safely, one haptic is brought out through the main incision, and straight tying forceps are used to grasp the edge of the optic, not the center.

The twist is then achieved with a second instrument, such as a spatula, that is introduced through a paracentesis. This instrument protects the corneal endothelium and helps roll the optic as the forceps are rotated. The hand starts in a fully supinated position and rotates into pronation to roll the flexible optic into a tight cigar shape. The reduced profile allows the lens to pass smoothly through the original phaco incision.

WATCH IT NOW

This technique is efficient and minimally invasive, and it avoids the need to use scissors inside the anterior chamber. Scan the QR code to watch a video demonstration of the technique.

A Two-OVD Strategy for Intumescent White Cataracts

BY H. BURKHARD DICK, MD, PHD, FEBOS-CR

One technique that has significantly improved the management of an intumescent white cataract is the use of two OVDs of different viscosities to create a central indentation of the anterior capsule.[1] These eyes often develop high intralenticular pressure because liquefied cortex accumulates beneath a tense capsule. After the capsule is punctured, the pressure gradient can cause a rapid radial tear, producing the classic Argentinian flag sign. To reduce this risk, trypan blue dye is instilled in the anterior capsule to enhance visualization.

The anterior chamber is then filled peripherally with a medium-viscosity OVD, followed by a targeted injection of a central bolus of a high-viscosity OVD. This maneuver indents the center of the anterior lens capsule, generating counterpressure that improves capsular stability and reduces the pressure gradient between the lens and the anterior chamber. After a small central puncture of the capsule is performed, the liquefied cortex gradually decompresses, while the OVD maintains control. A capsulorhexis can then be performed using end-grasping microforceps in a controlled, circular manner without peripheral extension of the tear. Using the high-viscosity OVD better protects against the egress of liquefied lens material, thus allowing better visualization and significantly reducing the number of capsular bag complications.[1]

In one young patient with a severely convex white cataract, this technique enabled safe decompression and the creation of a perfectly centered capsulorhexis, turning a potentially high-risk situation into a controlled procedure. ■

1. Hengerer FH, Dick HB, Kohnen T, Conrad-Hengerer I. Assessment of intraoperative complications in intumescent cataract surgery using 2 ophthalmic viscosurgical devices and trypan blue staining. *J Cataract Refract Surg*. 2015;41(4):714-718.

ROSA BRAGA-MELE, MD, MED, FRCSC
- Professor of Ophthalmology, Department of Ophthalmology, University of Toronto, Toronto
- Member, *CRST* International Advisory Board
- rbragamele@rogers.com; Instagram @dr_Rosa_fit
- Financial disclosure: None

UDAY DEVGAN, MD, FACS
- Private practice, Devgan Eye Surgery, Los Angeles
- Partner, Specialty Surgical Center, Beverly Hills, California
- Former Clinical Professor of Ophthalmology, Jules Stein Eye Institute, UCLA School of Medicine, Los Angeles
- Retired, Chief of Ophthalmology, Olive View-UCLA Medical Center, Los Angeles
- Member, *CRST* Editorial Advisory Board
- devgan@gmail.com
- Financial disclosure: Owner (cataractcoach.com)

H. BURKHARD DICK, MD, PHD, FEBOS-CR
- Director and Chairman, Ruhr University Eye Hospital, Bochum, Germany
- Member, *CRST Global* Editorial Advisory Board
- burkhard.dick@kk-bochum.de
- Financial disclosure: None