

# CATARACT SURGERY IN PATIENTS WITH CORNEAL OPACITIES

When the view through the cornea is poor, adjustments in illumination, capsular staining, and pupil expansion can help.



BY BORIS MALYUGIN, MD, PHD

In eyes with corneal opacities, visualization of the capsule and lens can be challenging. The degree of difficulty depends on the density and location of the opacity. When cataract surgery alone, rather than a combined corneal and cataract procedure, is planned, several techniques can improve visualization.

## OPTIMIZING VISUALIZATION

The first technique to improve visualization is to adjust the intensity of the operating microscope light and the balance between the coaxial and paraxial illumination.

The second is to add supplemental illumination. A light pipe borrowed from a vitreoretinal setup can be positioned on the cornea near the limbus for transcorneal illumination or introduced into the anterior chamber through a paracentesis incision for intracameral illumination. Pars plana chandelier illumination can be useful in these cases. This technique was first described by Oshima et al in 2007.<sup>1</sup>

The approach is illustrated in Figures 1 and 2. When the coaxial microscope light is turned off and the chandelier illuminator is turned on, light reflects off the retina and

improves visualization of the lens structures.

## ADDITIONAL PEARLS

Staining the capsule and using a phaco technique that increases the distance of the ultrasound tip from the posterior capsule can be beneficial in eyes with corneal opacities.

Adequate pupillary dilation is also important. Use of a pupillary expansion device, such as a Malyugin Ring 2.0 (MicroSurgical Technology) or iris hooks, may be advantageous (Figure 3).

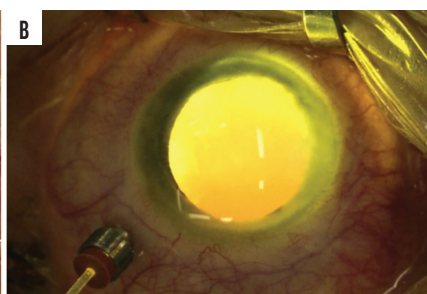


Figure 1. General view of the eye with the chandelier illuminator turned off (A) and on (B).

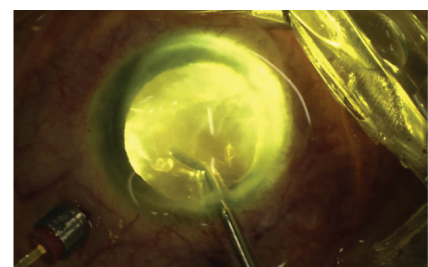


Figure 2. Aspiration of cortical material with the chandelier illuminator turned on.

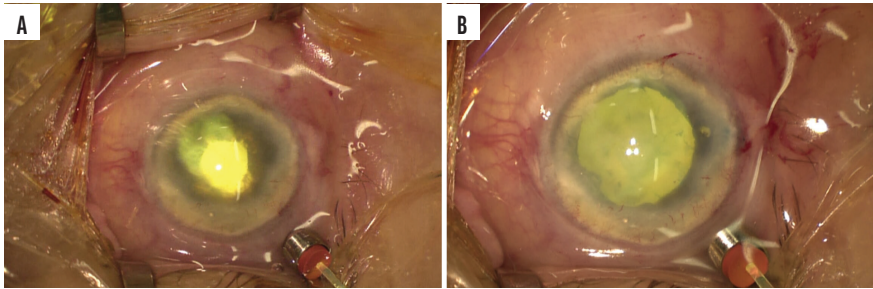


Figure 3. Patient with a cataract and corneal opacity. Chandelier illumination is inserted through the pars plana in the presence of a small pupil (A) and after pupil expansion with a Malyugin Ring 2.0 (7 mm; B).

The topics of staged versus simultaneous procedures

and IOL power calculation in eyes with corneal pathology are outside the scope of this discussion. ■

1. Oshima Y, Shima C, Maeda N, Tano Y. Chandelier retroillumination-assisted torsional oscillation for cataract surgery in patients with severe corneal opacity. *J Cataract Refract Surg.* 2007;33(12):2018-2022.

**BORIS MALYUGIN, MD, PHD**

- Professor of Ophthalmology, Joan & Jerome Snyder Endowed Chair in Cornea Diseases, The Jules Stein Eye Institute, University of California, Los Angeles
- Member, *CRST Global* Editorial Board
- [bmalyugin@mednet.ucla.edu](mailto:bmalyugin@mednet.ucla.edu); [www.uclahealth.org/providers/boris-malyugin](http://www.uclahealth.org/providers/boris-malyugin)
- Financial disclosure: Royalties (MicroSurgical Technology)